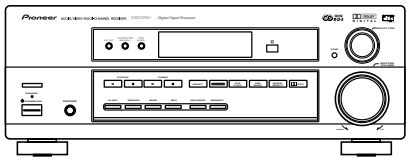
Service Manual



ORDER NO.
RRV2439

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D510

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	VSX-D510		
MYXJIEW	◯	AC220-230V	
MYXJIGR	◯	AC220-230V	
MVXJI	◯	AC230V	

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PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
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T – ZZR MAR. 2001 Printed in Japan

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

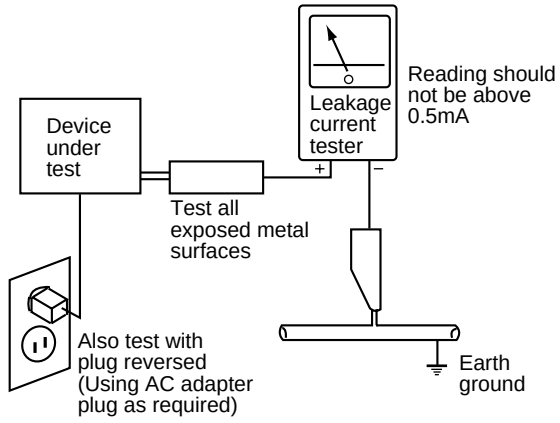
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

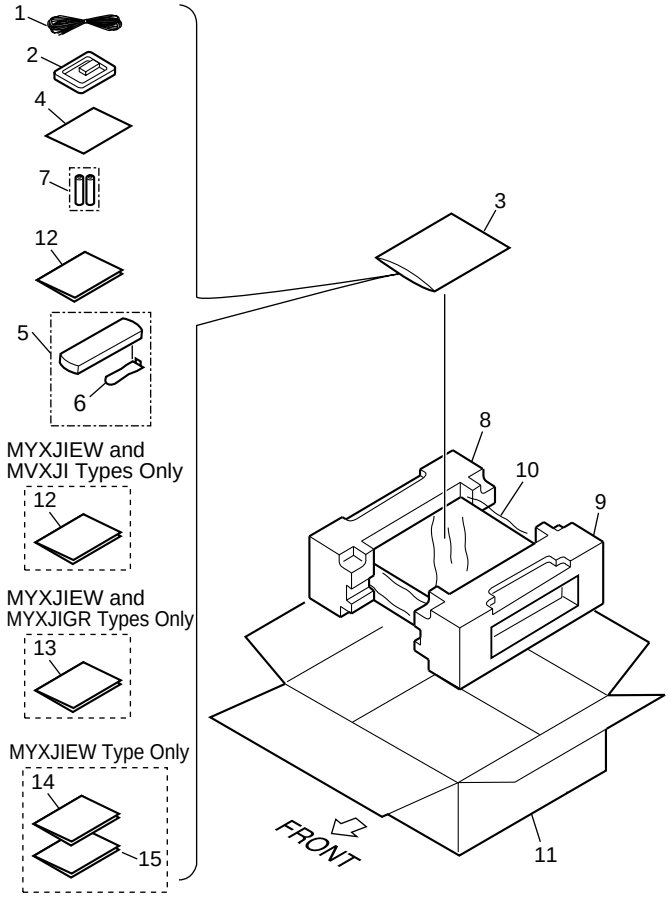
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

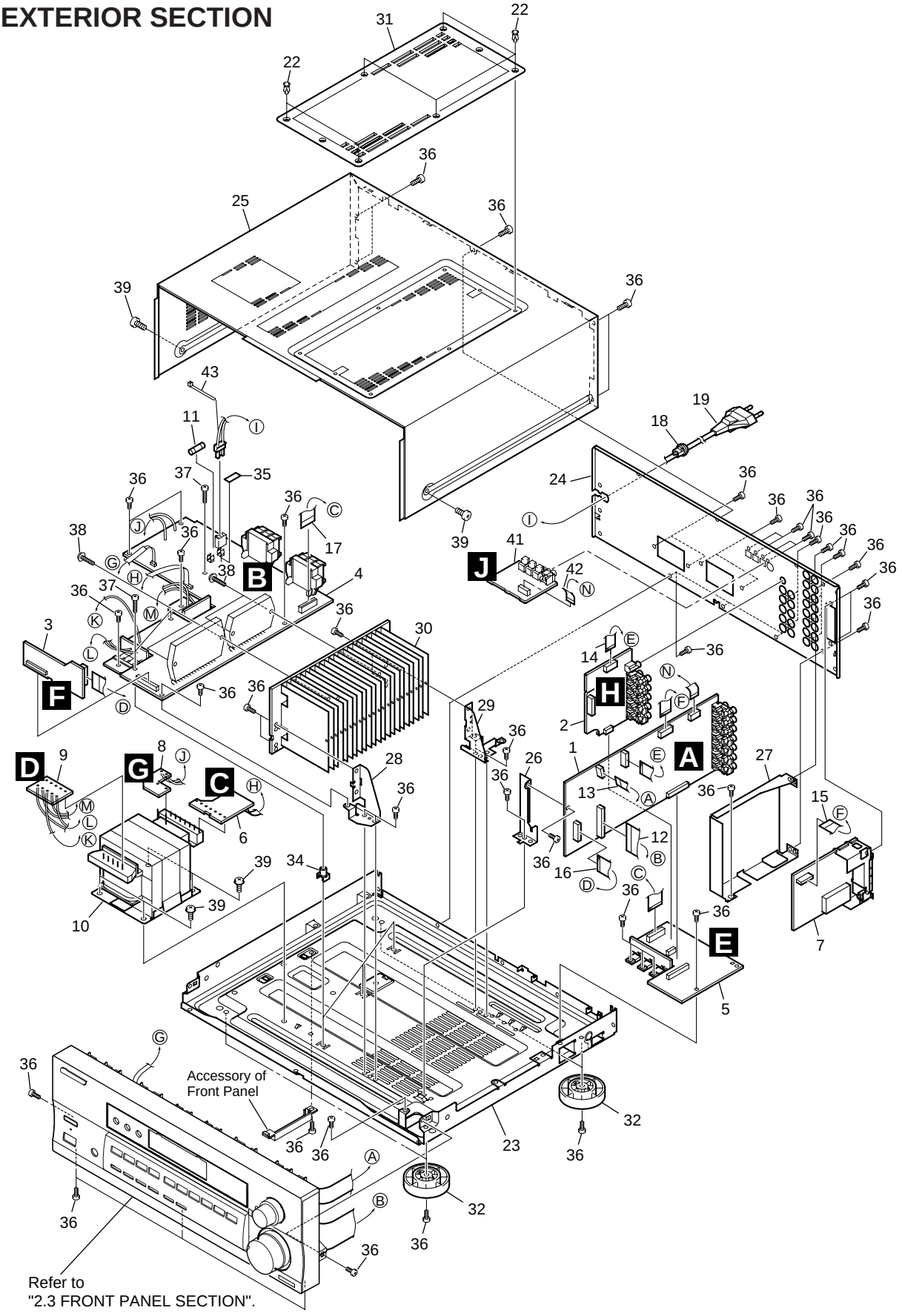
Mark	No.	Description	Part No.
	1	FM Wire Antenna	ADH7005
	2	AM Loop Antenna	ATB7009
NSP	3	Polyethylene Bag ($0.03 \times 230 \times 340$)	Z21-038
NSP	4	Warranty Card	ARY7022
	5	Remote Control Unit	AXD7247
	6	Battery Cover	AZA7378
NSP	7	Dry Cell Battery (R6P, AA)	VEM1011
	8	Left Pad	XHA3024
	9	Right Pad	XHA3025
	10	Packing Sheet	AHG7069
	11	Packing Case	XHD3149
	12	Operating Instructions (English)	See Contrast table (2)
	13	Operating Instructions (German)	See Contrast table (2)
	14	Operating Instructions (Dutch/Swedish/Portuguese)	See Contrast table (2)
	15	Operating Instructions (French/Italian/Spanish)	See Contrast table (2)

(2) CONTRAST TABLE

VSX-D510/MYXJIEW, /MYXJIGR and VSX-D510/MVXJI are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			VSX-D510			
			/MYXJIEW	/MYXJIGR	/MVXJI	
	12	Operating Instructions (English)	XRB3003	Not used	XRB3003	
	13	Operating Instructions (German)	XRC30027	XRC3027	Not used	
	14	Operating Instructions (Dutch/Swedish/Portuguese)	XRC3028	Not used	Not used	
	15	Operating Instructions (French/Italian/Spanish)	XRC3029	Not used	Not used	

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

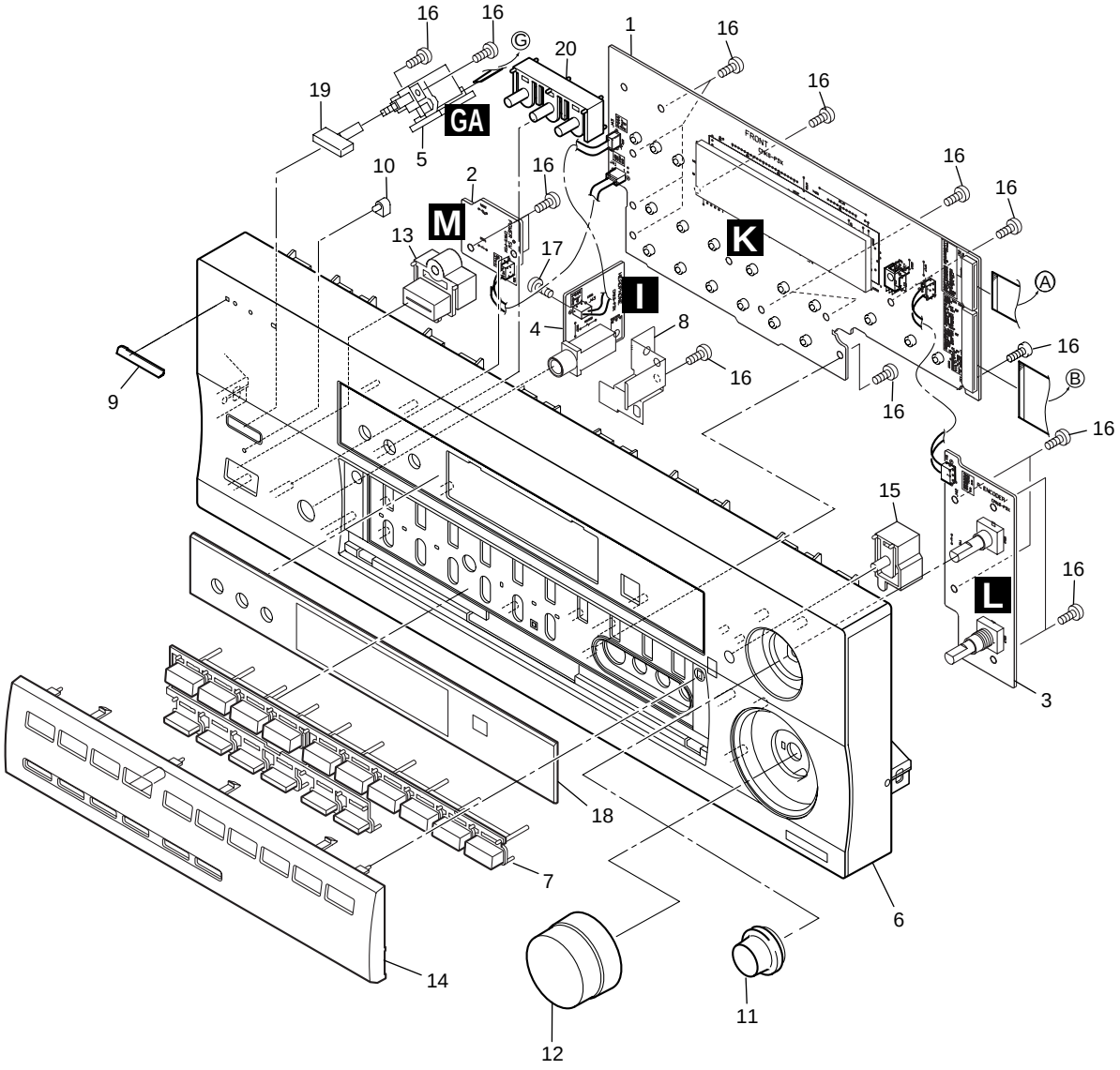
Mark	No.	Description	Part No.
	1	D.D & INPUT Assy	XWX3025
	2	VIDEO&6CH IN Assy	XWZ3333
NSP	3	AMP INPUT Assy	AWX7382
	4	AMP&PRIMARY Assy	XWZ3373
	5	REGULATOR Assy	AWX7493
	6	TRANS 2 Assy	AWX7468
	7	FM/AM TUNER Unit	AXX7048
NSP	8	TRANS 1 Assy	AWX7390
NSP	9	TRANS 3 Assy	AWX7392
⚠	10	Power Transformer (AC230V)	ATS7259
⚠	11	Fuse (FU1 : T2.5A)	REK1026
	12	FFC (J31 : 31P/180 BD 60V) (D.D & INPUT CN102 ↔ FRONT CN402)	XDD3055
	13	FFC (J32 : 19P/180 BD 60V) (D.D & INPUT CN103 ↔ FRONT CN401)	XDD3054
	14	FFC (J33 : 14P/200 BD 60V) (D.D & INPUT CN104 ↔ VIDEO&6CH IN CN303)	XDD3060
	15	FFC (J34 : 13P/100 BD 60V) (D.D & INPUT CN105 ↔ FM/AM TUNER CN1)	XDD3059
	16	FFC (J35 : 17P/90 BD 60V) (D.D & INPUT CN106 ↔ AMP INPUT CN290)	XDD3072
	17	FFC (J36 : 22P/80 BD 60V) (REGULATOR CN801 ↔ AMP&PRIMARY CN53)	XDD3057
	18	Strain Relief	CM-22B
⚠	19	AC Power Cord	See Contrast table (2)
	20	• • • • •	
	21	• • • • •	
	22	Push Rivet	AEC7025
NSP	23	Under Base 409	ANA7094
	24	Rear Panel	XNC3080
	25	Bonnet Case	XZN3111
	26	PCB Angle	ANG7253
	27	Shield R3	ANG7277
	28	Heat Sink Angle F	ANG7251
	29	Heat Sink Angle R	ANG7252
NSP	30	Heat Sink Assy 0.8	ANH7118
	31	Top Cover	XME3001
	32	Insulator	PNW2766
	33	• • • • •	
	34	PCB Mold	AMR2533
NSP	35	Fuse Card	AAX7277
	36	Screw	BBZ30P080FMC
	37	Screw	BBZ30P200FMC
	38	Screw (3x23)	ABA7043
	39	Screw	FBT40P080FZK
	40	• • • • •	
	41	DIGITAL IN Assy	XWZ3361
	42	FFC (J37 : 6P/130 BD 60V) (D.D & INPUT CN1501 ↔ DIGITAL IN CN1901)	XDD3058
	43	Binder	ZCA–BK1

(2) CONTRAST TABLE

VSX-D510/MYXJIEW, /MYXJIGR and VSX-D510/MVXJI are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			VSX-D510			
			/MYXJIEW	/MYXJIGR	/MVXJI	
⚠	19	AC Power Cord	VDG1077	VDG1077	VDG1076	

2.3 FRONT PANEL SECTION

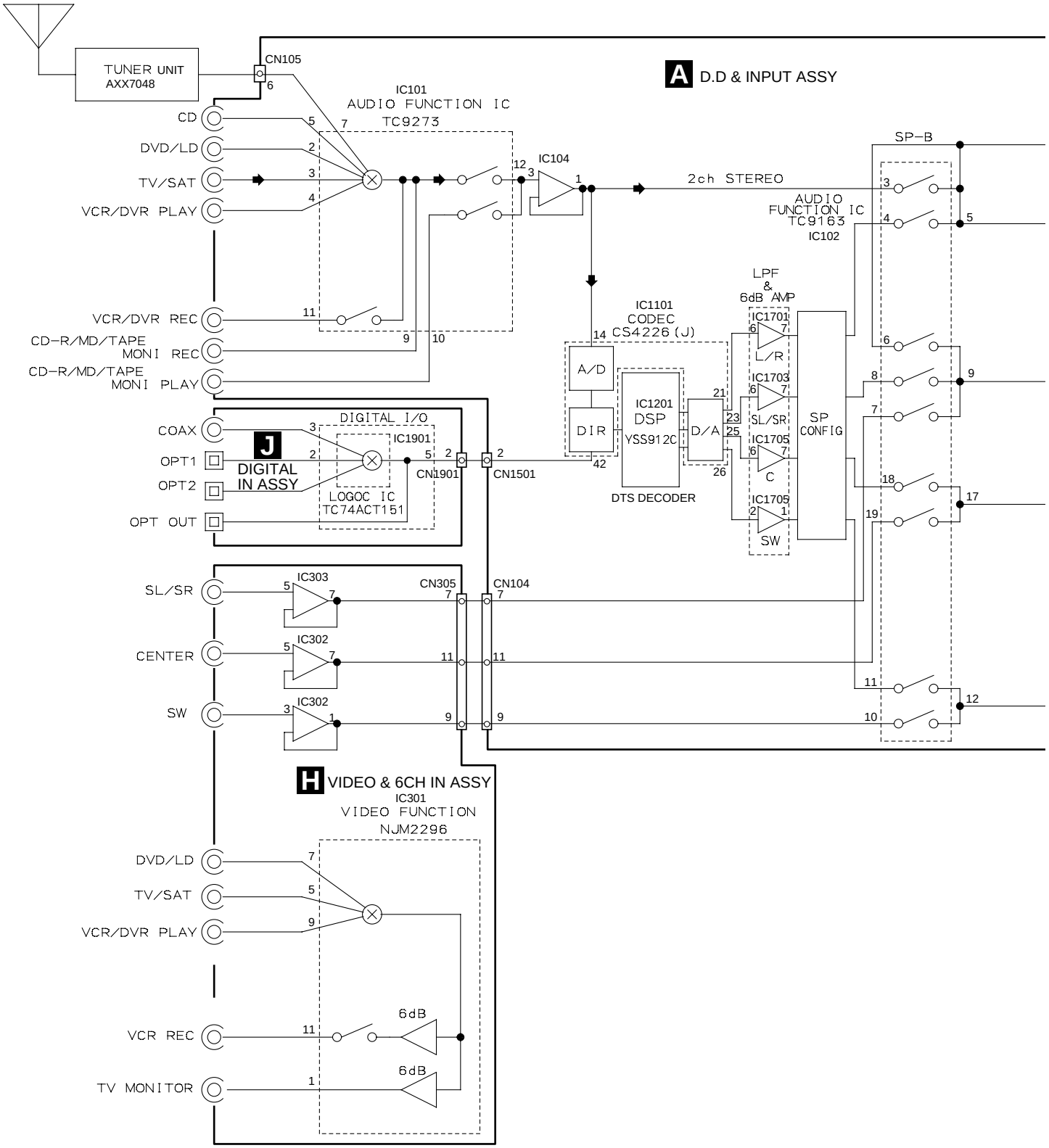


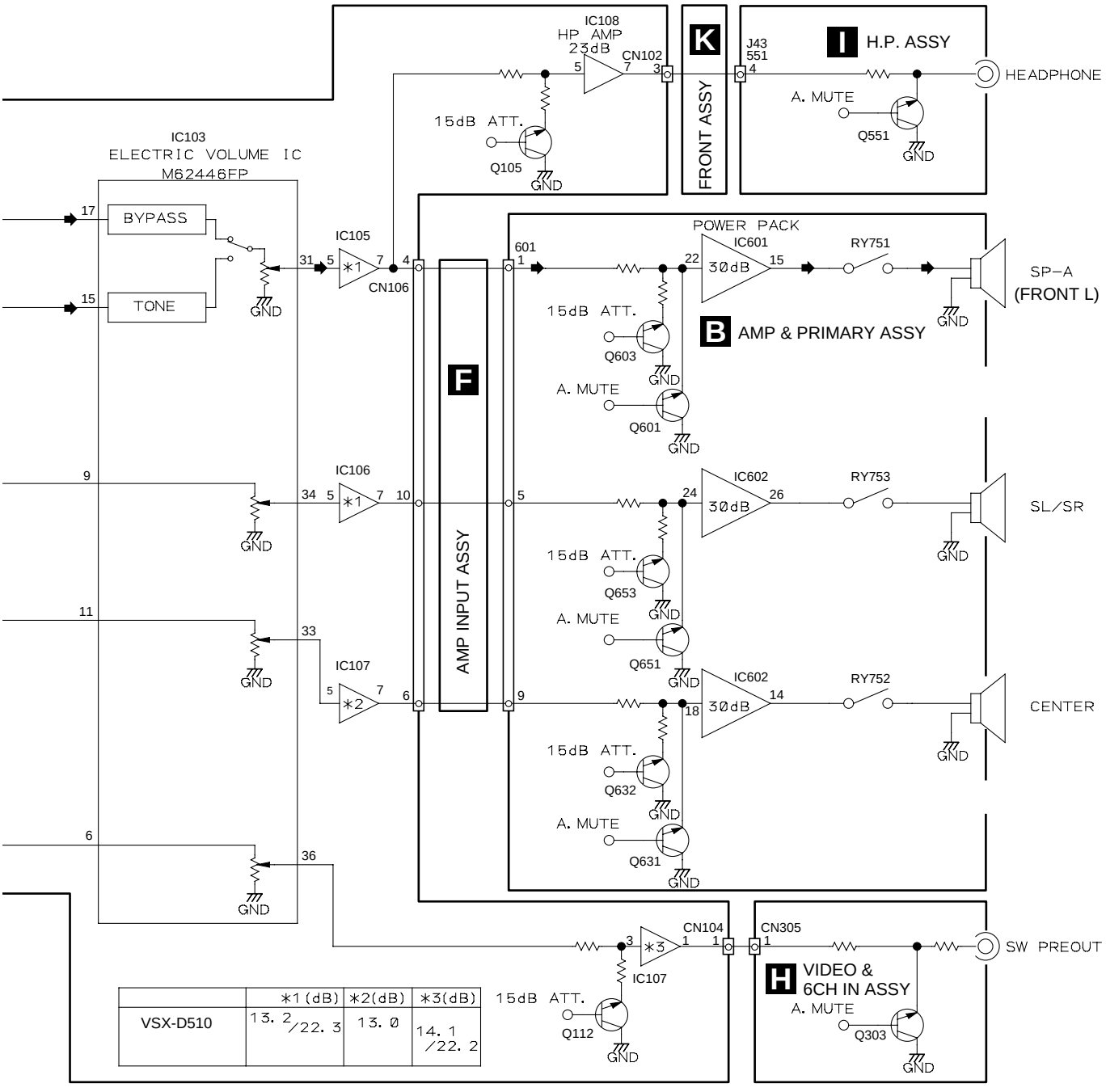
● FRONT PANEL SECTION PARTS LIST

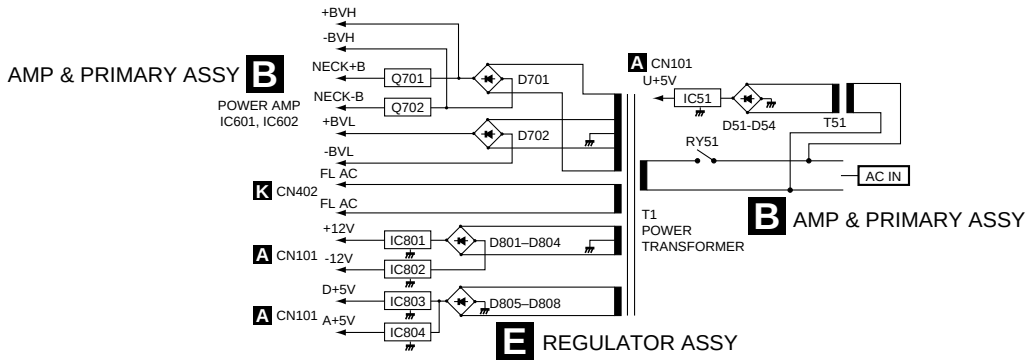
Mark	No.	Description	Part No.
	1	FRONT Assy	XWZ3337
	2	POWER SW Assy	XWZ3352
NSP	3	R. ENCODER Assy	XWZ3353
NSP	4	H.P. Assy	XWZ3356
	5	MECHA SW Assy	XWZ3358
	6	Front Panel	XMB3035
	7	Sub Button	XAD3068
	8	Earth Plate A	XNG3044
	9	Name Plate	PAM1776
	10	LED Lens	PNW2019
	11	Select Knob	XAB3008
	12	Volume Knob	XAB3011
	13	Power Button	XAD3062
	14	Sub Panel	XAK3169
	15	Jog Button	XAD3065
	16	Screw	PPZ30P080FMC
	17	Screw	BBZ30P080FMC
	18	Display Panel	XAK3171
	19	Power Button M	AAD7442
	20	RDS Button	XAD3072

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

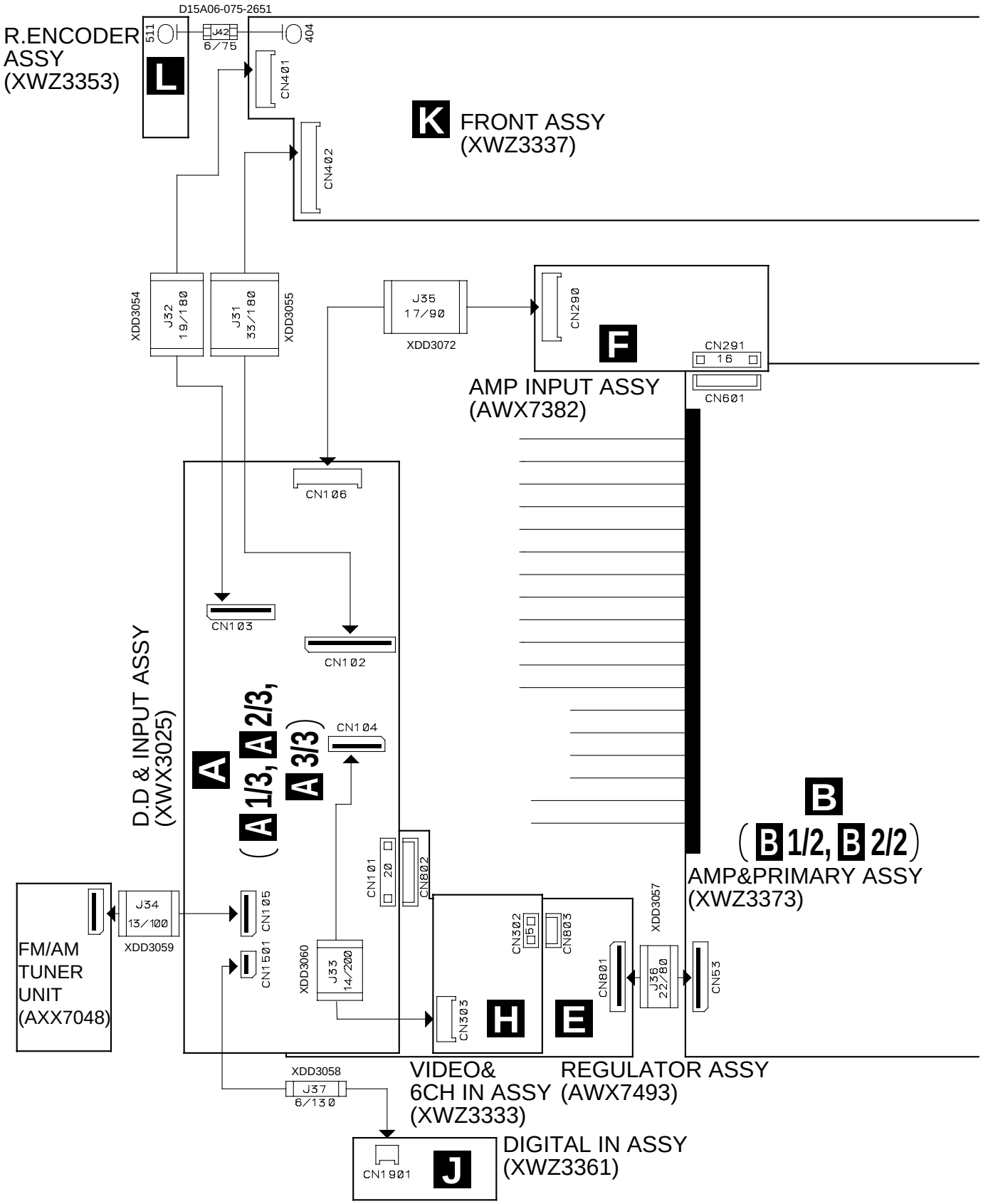
3.1 BLOCK DIAGRAM



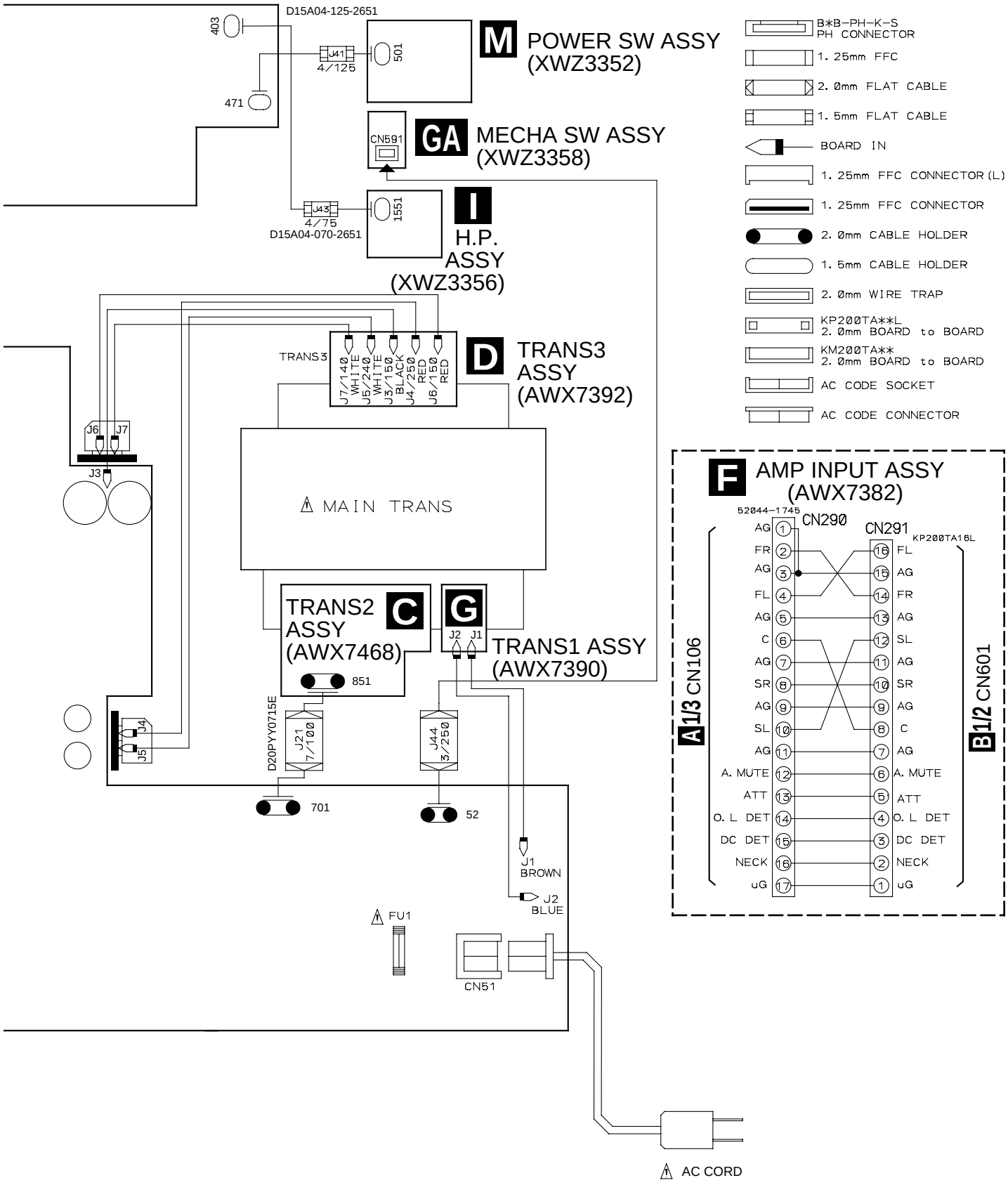

IC108
HP AMP
23dB
CN102
K
FRONT ASSY
J43
551
I H.P. ASSY
HEADPHONE
A. MUTE
Q551
GND
15dB ATT.
Q105
IC103
ELECTRIC VOLUME IC
M62446FP
BYPASS
TONE
IC105
CN106
POWER PACK
IC601
RY751
SP–A
(FRONT L)
B AMP & PRIMARY ASSY
F
AMP INPUT ASSY
Q603
Q601
IC106
IC602
RY753
SL/SR
Q653
Q651
IC107
RY752
CENTER
Q632
Q631
CN104
CN305
SW PREOUT
H VIDEO &
6CH IN ASSY
Q112
Q303
VSX-D510
∗1(dB)
∗2(dB)
∗3(dB)
13.2/22.3
13.0
14.1/22.2


AMP & PRIMARY ASSY B
POWER AMP
IC601, IC602
+BVH
-BVH
NECK+B
NECK-B
+BVL
-BVL
Q701
Q702
D701
D702
FL AC
K CN402
FL AC
+12V
-12V
A CN101
IC801
IC802
D801–D804
D+5V
A+5V
A CN101
IC803
IC804
D805–D808
E REGULATOR ASSY
A CN101
U+5V
IC51
D51-D54
T51
RY51
AC IN
T1
POWER
TRANSFORMER
B AMP & PRIMARY ASSY

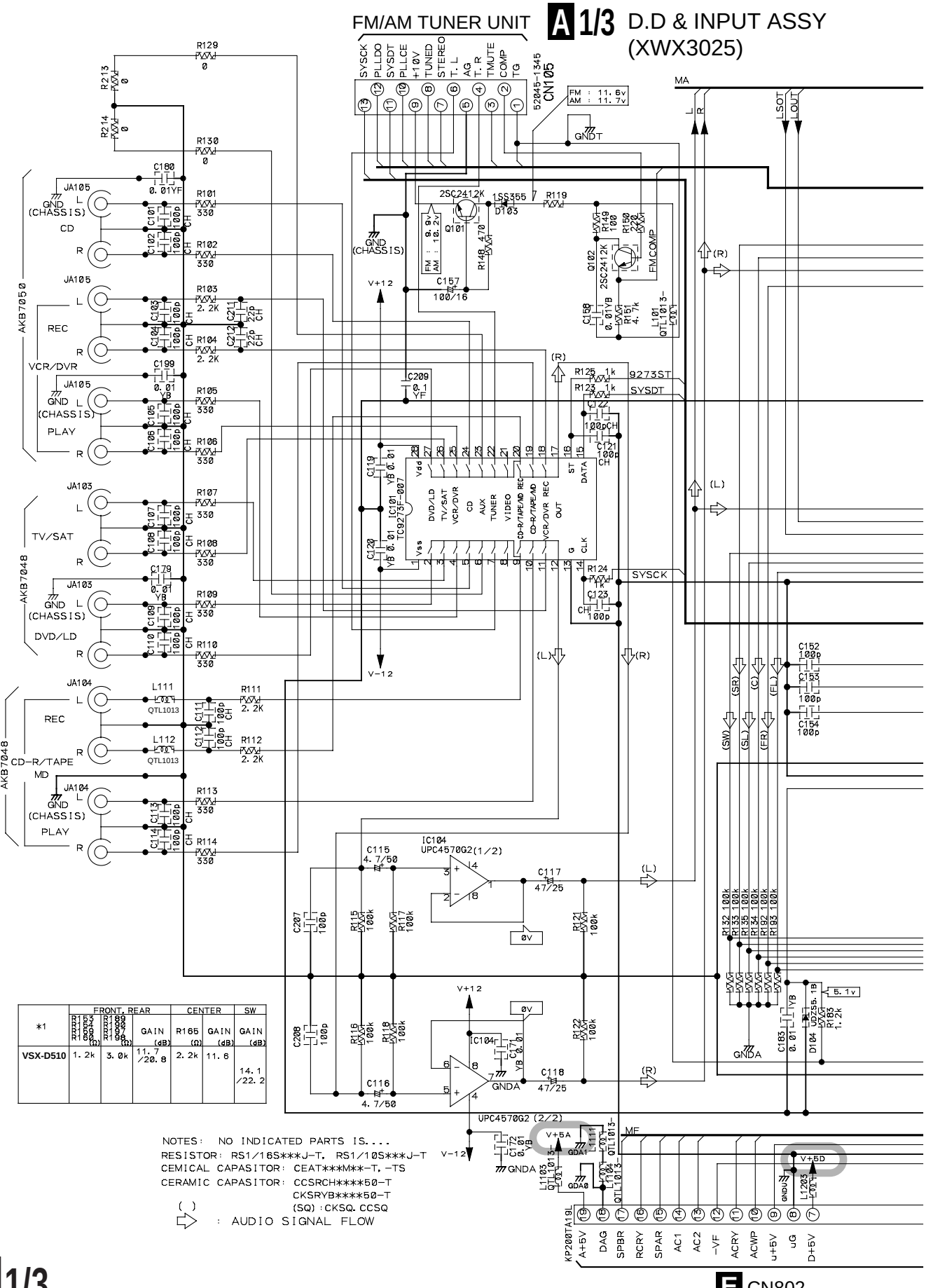
3.2 OVERALL WIRING CONNECTION DIAGRAM and AMP INPUT ASSY



Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

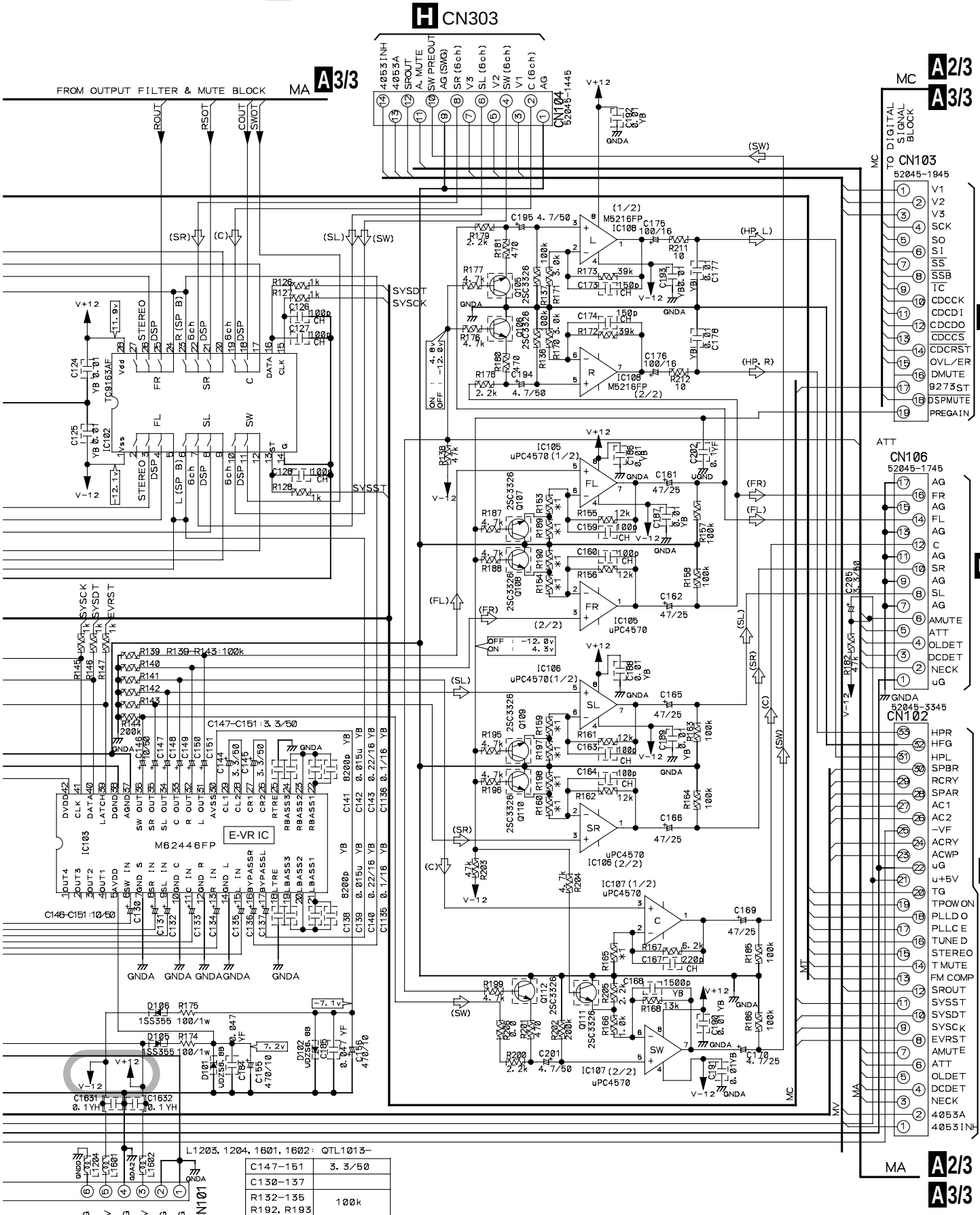


3.3 D.D & INPUT ASSY (1/3)

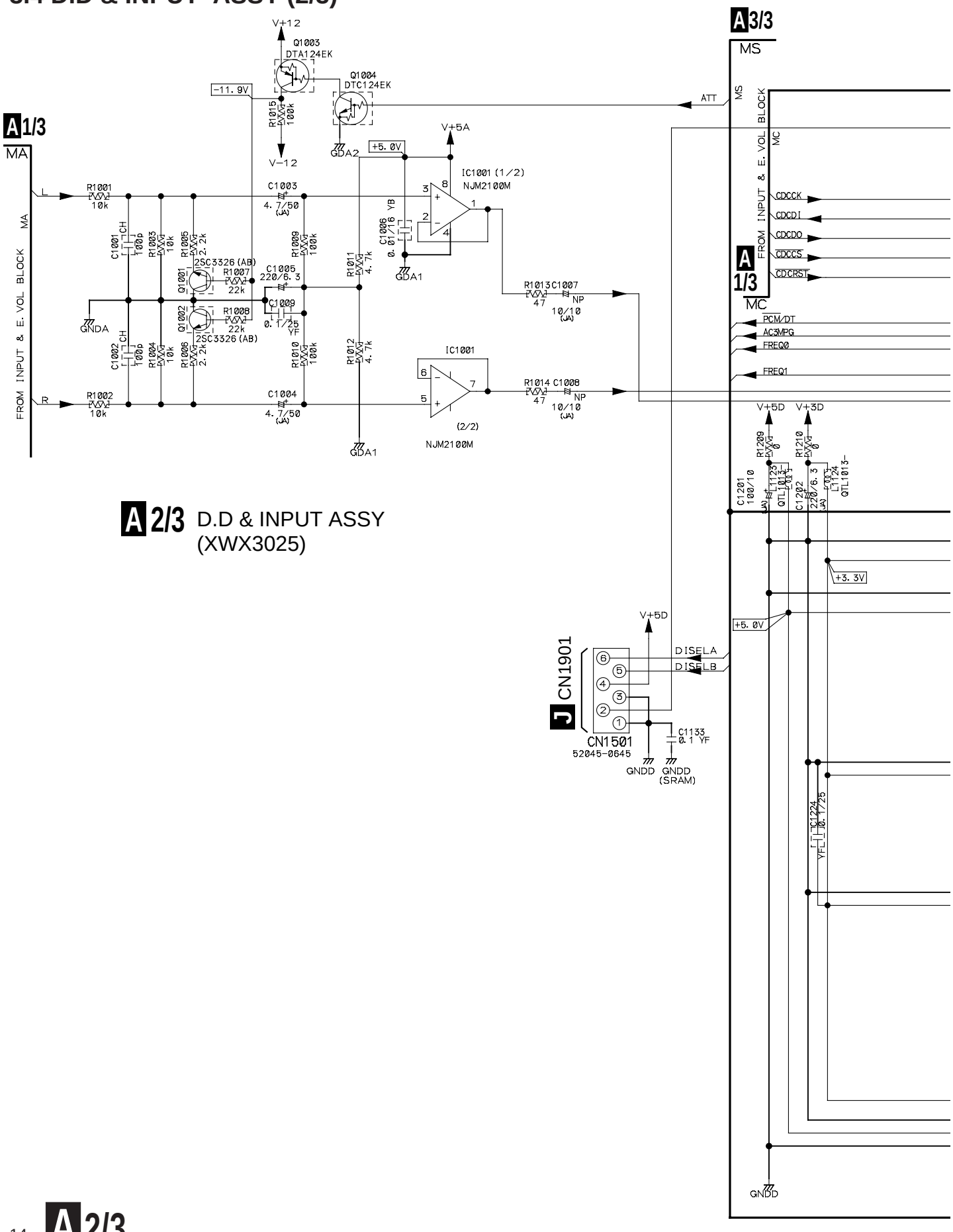


*1	FRONT, REAR			CENTER		SW
	R159 (Ω)	R160 (Ω)	GAIN (dB)	R165 (Ω)	GAIN (dB)	GAIN (dB)
VSX-D510	1.2k	3.0k	11.7 /20.8	2.2k	11.6	14.1 /22.2

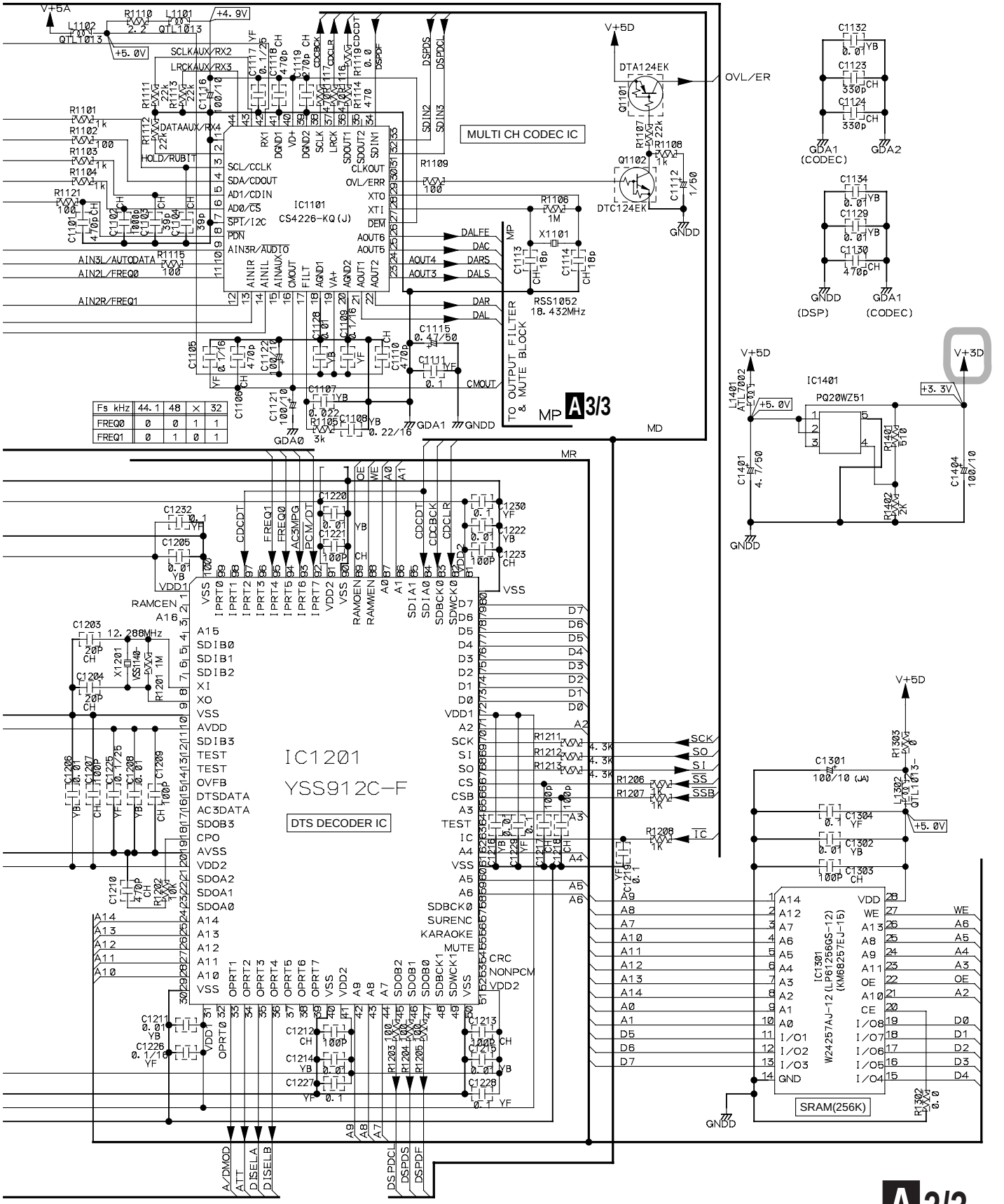
: The power supply is shown with the marked box.



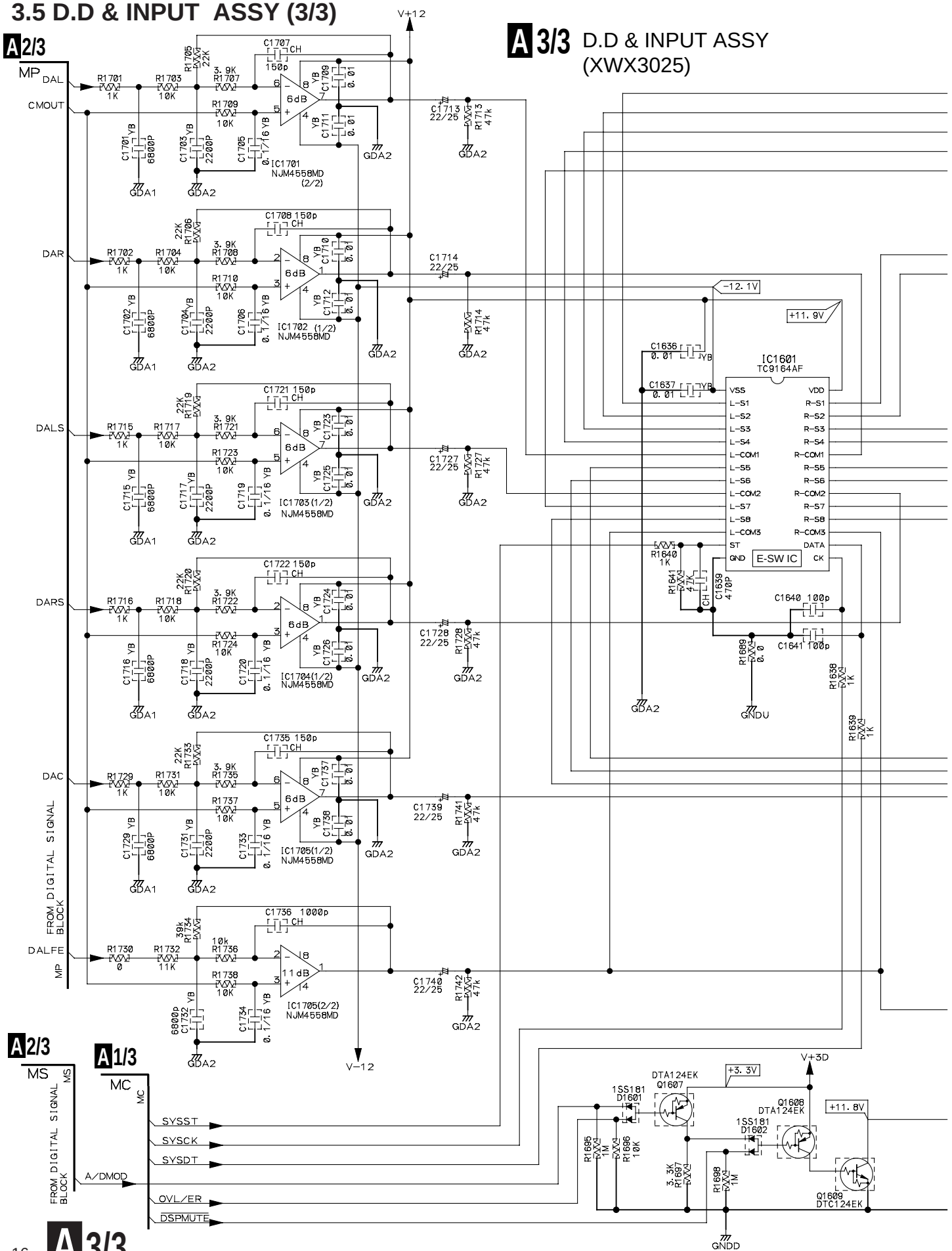
3.4 D.D & INPUT ASSY (2/3)

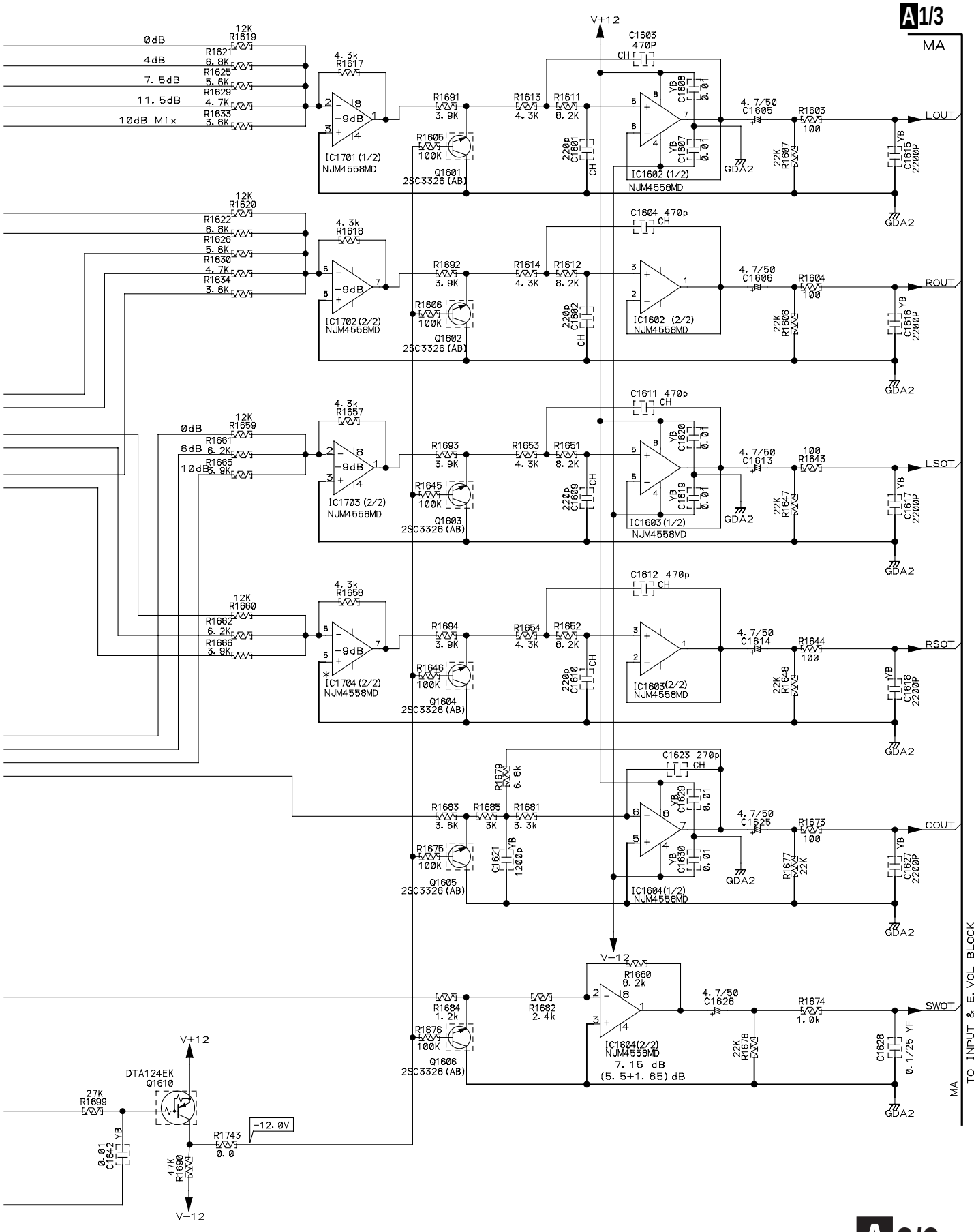


: The power supply is shown with the marked box.

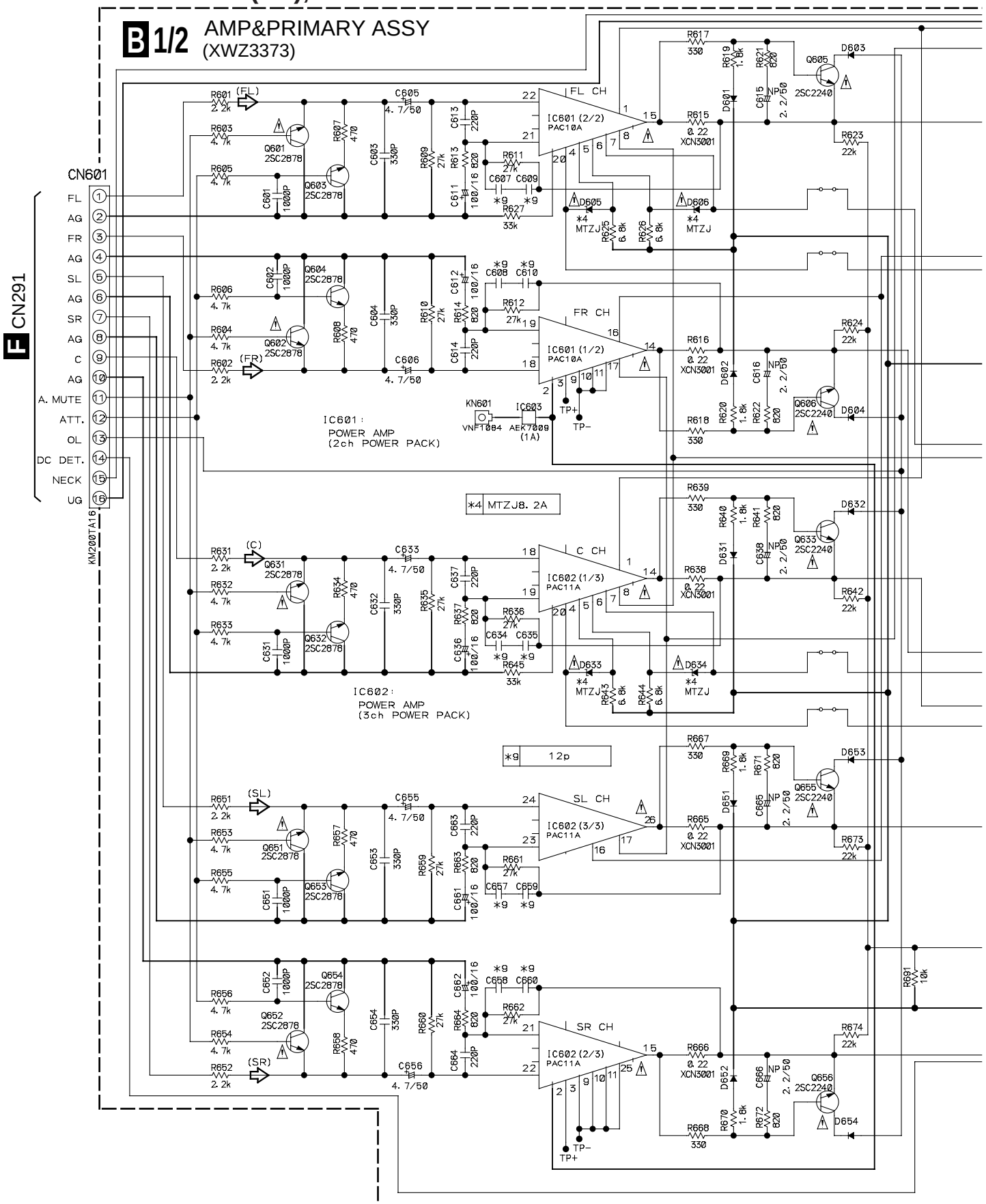


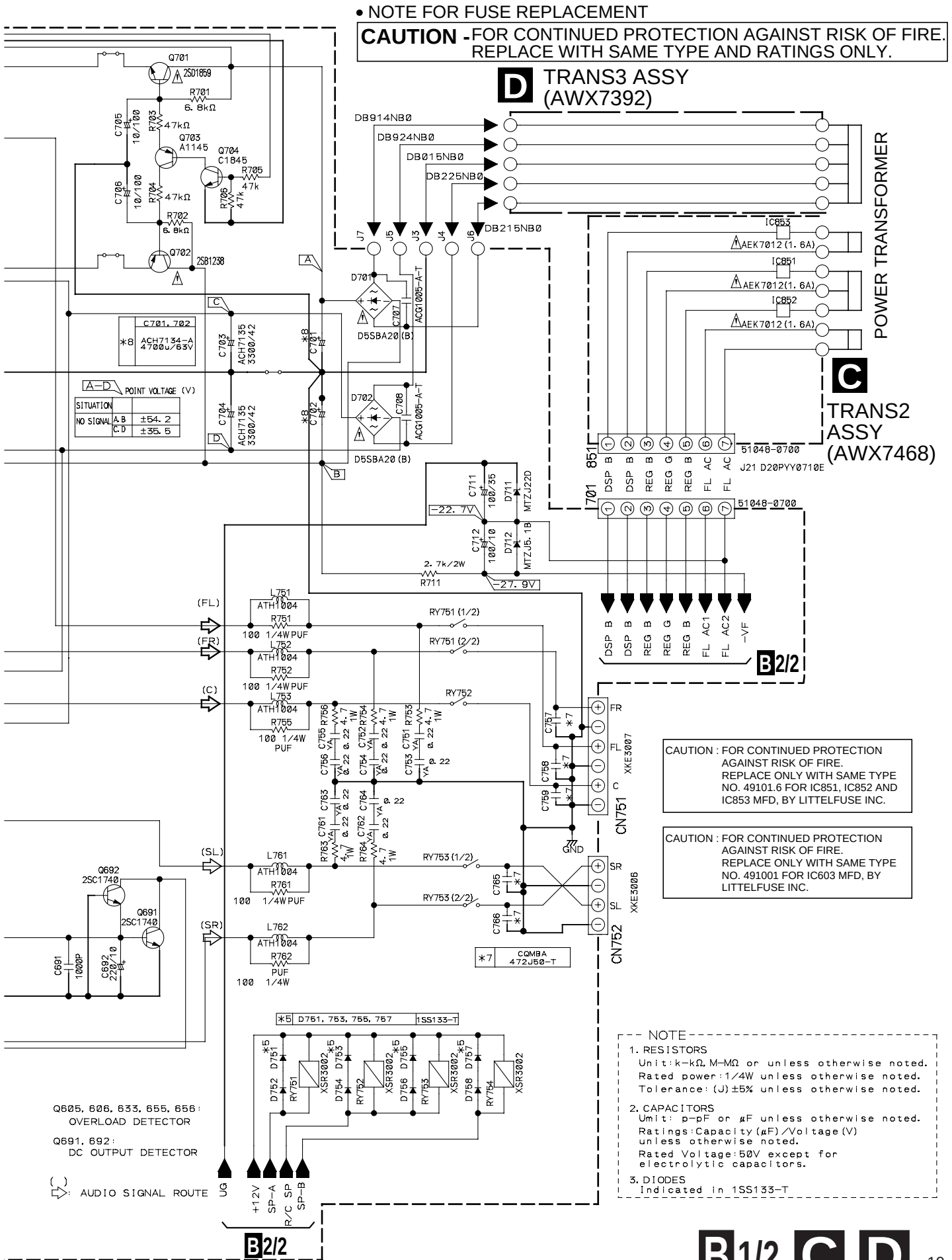
3.5 D.D & INPUT ASSY (3/3)



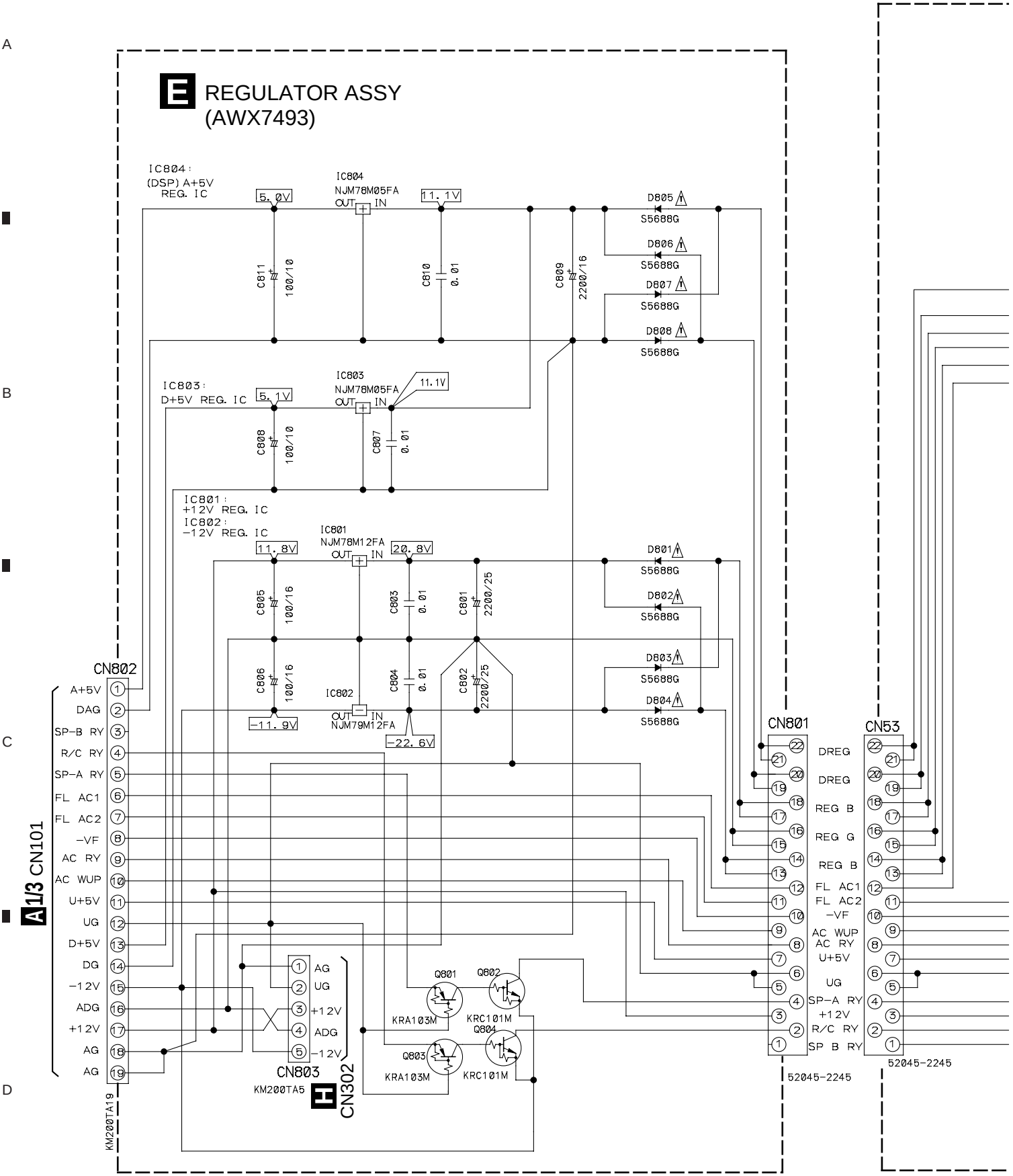

A1/3
MA
V+12
V-12
0dB
4dB
7.5dB
11.5dB
10dB Mix
12K R1619
R1621 6.8K
R1625 5.6K
R1629 4.7K
R1633 3.6K
4.3k R1617
R1691 3.9K
R1613 4.3K
R1611 8.2K
C1603 470P CH
C1608 YB 0.01
4.7/50 C1605
R1603 100
LOUT
R1605 100K
Q1601 2SC3326(AB)
220p C1601 CH
C1607 YB 0.01
GDA2
22K R1607
C1615 YB 2200P
[IC1701(1/2) NJM4558MD
[IC1602(1/2) NJM4558MD
12K R1620
R1622 6.8K
R1626 5.6K
R1630 4.7K
R1634 3.6K
4.3k R1618
R1692 3.9K
R1614 4.3K
R1612 8.2K
C1604 470p CH
4.7/50 C1606
R1604 100
ROUT
R1606 100K
Q1602 2SC3326(AB)
220p C1602 CH
22K R1608
C1616 YB 2200P
[IC1702(2/2) NJM4558MD
[IC1602(2/2) NJM4558MD
0dB
6dB
10dB
12K R1659
R1661 6.2K
R1665 3.9K
4.3k R1657
R1693 3.9K
R1653 4.3K
R1651 8.2K
C1611 470p CH
C1620 YB 0.01
4.7/50 C1613
100 R1643
LSOT
R1645 100K
Q1603 2SC3326(AB)
220p C1609 CH
C1619 YB 0.01
22K R1647
C1617 YB 2200P
[IC1703(2/2) NJM4558MD
[IC1603(1/2) NJM4558MD
12K R1660
R1662 6.2K
R1666 3.9K
4.3k R1658
R1694 3.9K
R1654 4.3K
R1652 8.2K
C1612 470p CH
4.7/50 C1614
R1644 100
RSOT
R1646 100K
Q1604 2SC3326(AB)
220p C1610 CH
22K R1648
C1618 YB 2200P
[IC1704(2/2) NJM4558MD
[IC1603(2/2) NJM4558MD
C1623 270p CH
R1679 6.8k
R1683 3.6K
R1685 3K
R1681 3.3k
C1629 YB 0.01
4.7/50 C1625
R1673 100
COUT
R1675 100K
C1621 YB 1200p
Q1605 2SC3326(AB)
C1630 YB 0.01
22K R1677
C1627 YB 2200P
[IC1604(1/2) NJM4558MD
R1680 8.2k
R1684 1.2k
R1682 2.4k
4.7/50 C1626
R1674 1.0k
SWOT
R1676 100K
Q1606 2SC3326(AB)
[IC1604(2/2) NJM4558MD
7.15 dB
(5.5+1.65)dB
22K R1678
C1628 0.1/25 YF
TO INPUT & E.VOL BLOCK
DTA124EK Q1610
27K R1699
0.01 C1642 YB
R1743 0.0
-12.0V
47K R1690

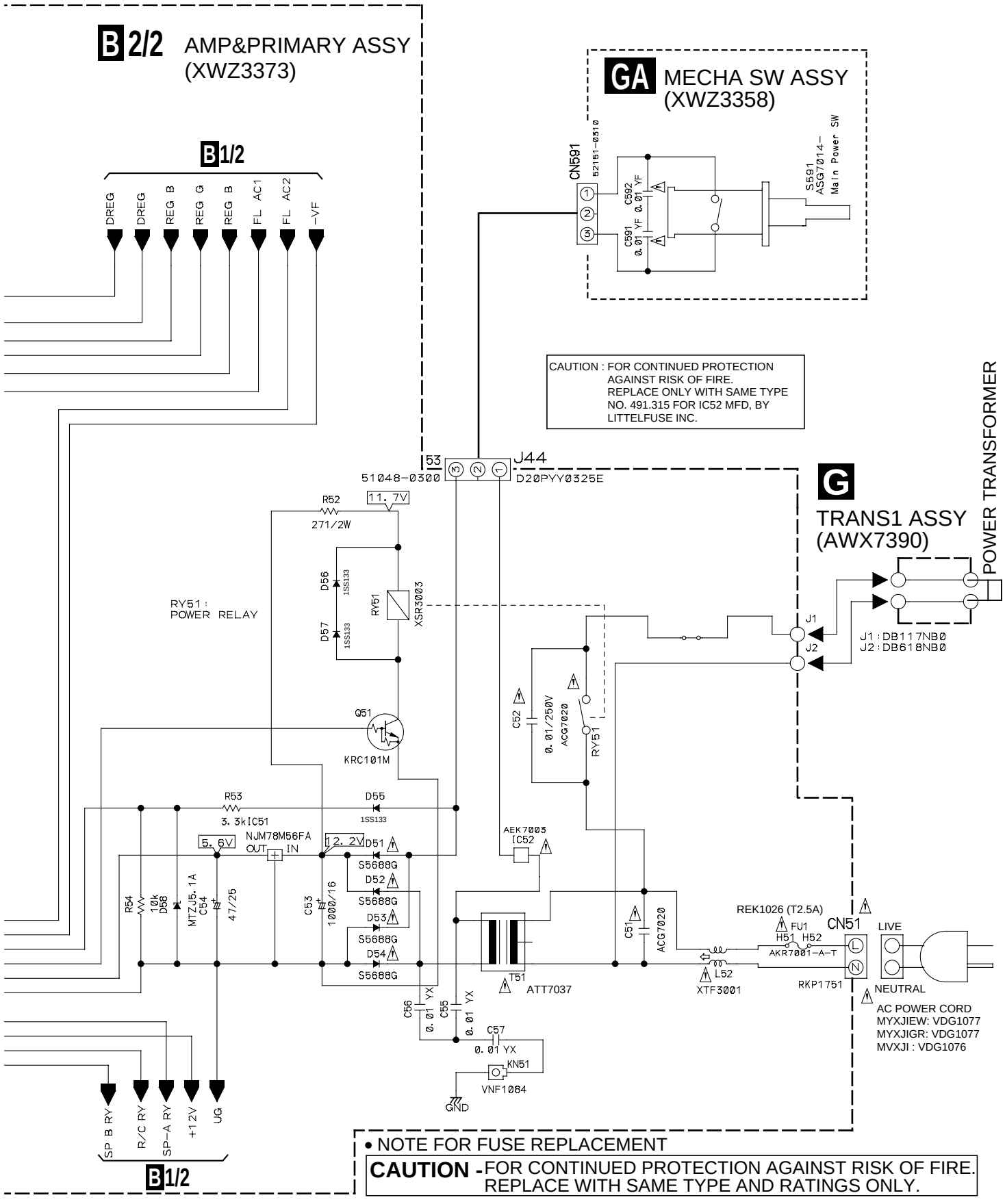
3.6 AMP&PRIMARY (1/2), TRANS2 and TRANS3 ASSYS




• NOTE FOR FUSE REPLACEMENT
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.
D TRANS3 ASSY (AWX7392)
POWER TRANSFORMER
C TRANS2 ASSY (AWX7468)
B2/2
B1/2 C D
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49101.6 FOR IC851, IC852 AND IC853 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491001 FOR IC603 MFD, BY LITTELFUSE INC.
NOTE
1. RESISTORS
Unit:k-kΩ, M-MΩ or unless otherwise noted.
Rated power:1/4W unless otherwise noted.
Tolerance:(J)±5% unless otherwise noted.
2. CAPACITORS
Umit: p-pF or μF unless otherwise noted.
Ratings:Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage:50V except for electrolytic capacitors.
3. DIODES
Indicated in 1SS133-T
Q605, 606, 633, 655, 656: OVERLOAD DETECTOR
Q691, 692: DC OUTPUT DETECTOR
( ) : AUDIO SIGNAL ROUTE

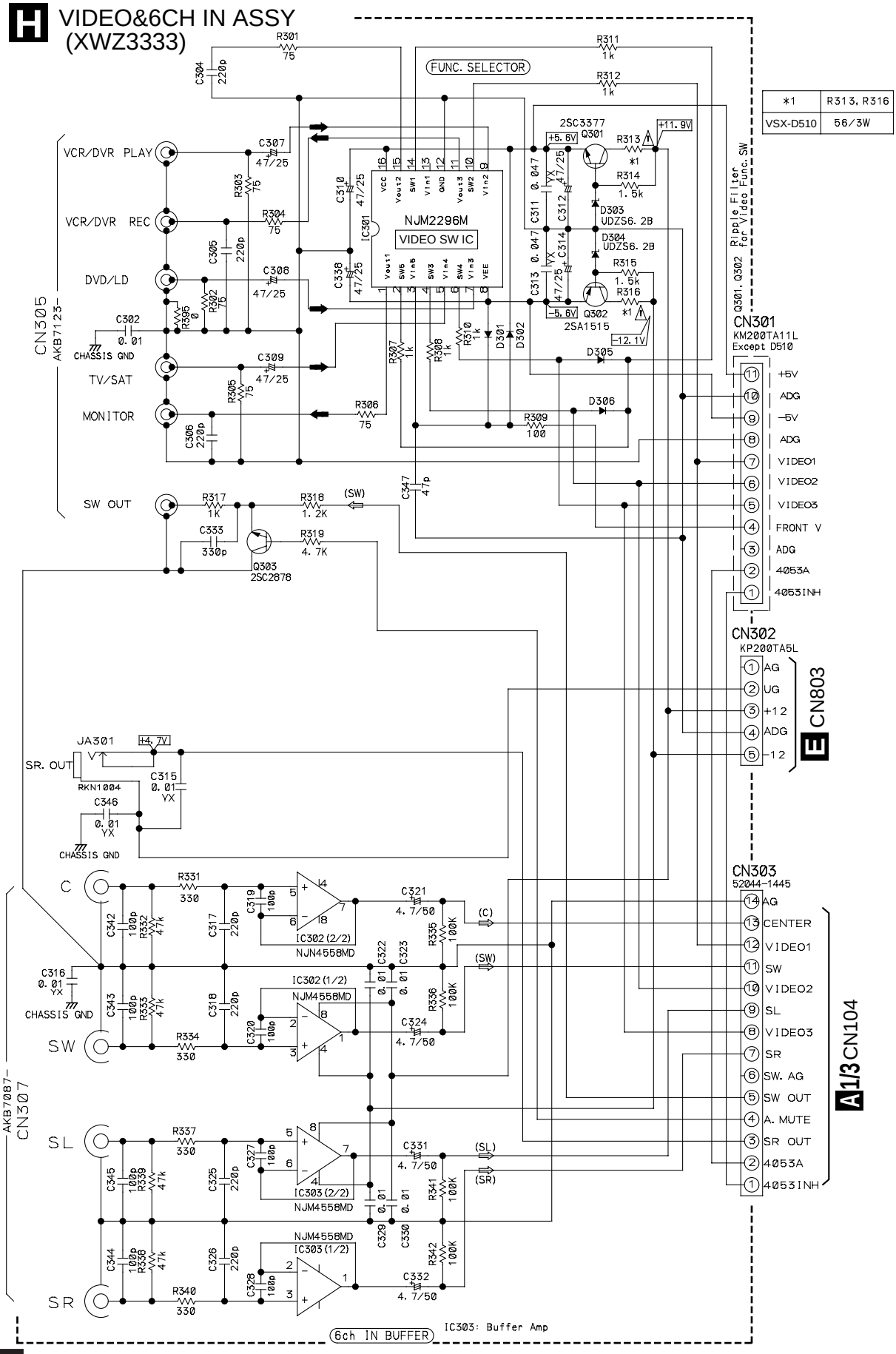
3.7 AMP&PRIMARY (2/2), REGULATOR, MECHA SW and TRANS1 ASSYS




B 2/2 AMP&PRIMARY ASSY
(XWZ3373)
B1/2
DREG
DREG
REG B
REG G
REG B
FL AC1
FL AC2
–VF
GA MECHA SW ASSY
(XWZ3358)
CN591
52151-0310
C592 YF 0.01
C591 YF 0.01
S591
ASG7014-
Main Power SW
CAUTION : FOR CONTINUED PROTECTION
AGAINST RISK OF FIRE.
REPLACE ONLY WITH SAME TYPE
NO. 491.315 FOR IC52 MFD, BY
LITTELFUSE INC.
53
J44
51048-0300
D20PYY0325E
G
TRANS1 ASSY
(AWX7390)
POWER TRANSFORMER
J1 : DB117NB0
J2 : DB618NB0
R52
271/2W
11.7V
D56
D57
1SS133
RY51
XSR3003
RY51 :
POWER RELAY
Q51
KRC101M
C52
0.01/250V
ACG7020
RY51
R53
3.3kIC51
D55
1SS133
5.6V
NJM78M56FA
OUT
IN
12.2V
D51
S5688G
D52
S5688G
D53
S5688G
D54
S5688G
AEK7003
IC52
R54
10k
D58
MTZJ5.1A
C54
47/25
C53
1000/16
C56
0.01 YX
C55
0.01 YX
C57
0.01 YX
KN51
VNF1084
GND
T51
ATT7037
C51
ACG7020
L52
XTF3001
REK1026 (T2.5A)
FU1
H51 H52
AKR7001-A-T
CN51
RKP1751
LIVE
NEUTRAL
AC POWER CORD
MYXJIEW: VDG1077
MYXJIGR: VDG1077
MVXJI : VDG1076
SP B RY
R/C RY
SP-A RY
+12V
UG
B1/2
• NOTE FOR FUSE REPLACEMENT
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.8 VIDEO&6CH IN, H. P. and DIGITAL IN ASSYS

H VIDEO&6CH IN ASSY
(XWZ3333)



*1	R313, R316
VSX-D510	56/3W

NJM2296M control port status

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
1	0	(1)	0	1	Vin2	Vin2	mute
1	1	(1)	0	1	Vin3	Vin3	Vin3
1	1	0	1	1	Vin4	Vin4	Vin4
1	1	1	1	1	Vin5	Vin5	Vin5
0	0	(0)	(0)	0	mute	mute	mute

VIN 2. VCR/DVR
VIN 3. DVD/LD
VIN 4. TV/SAT
VIN 5. FRONT VIDEO

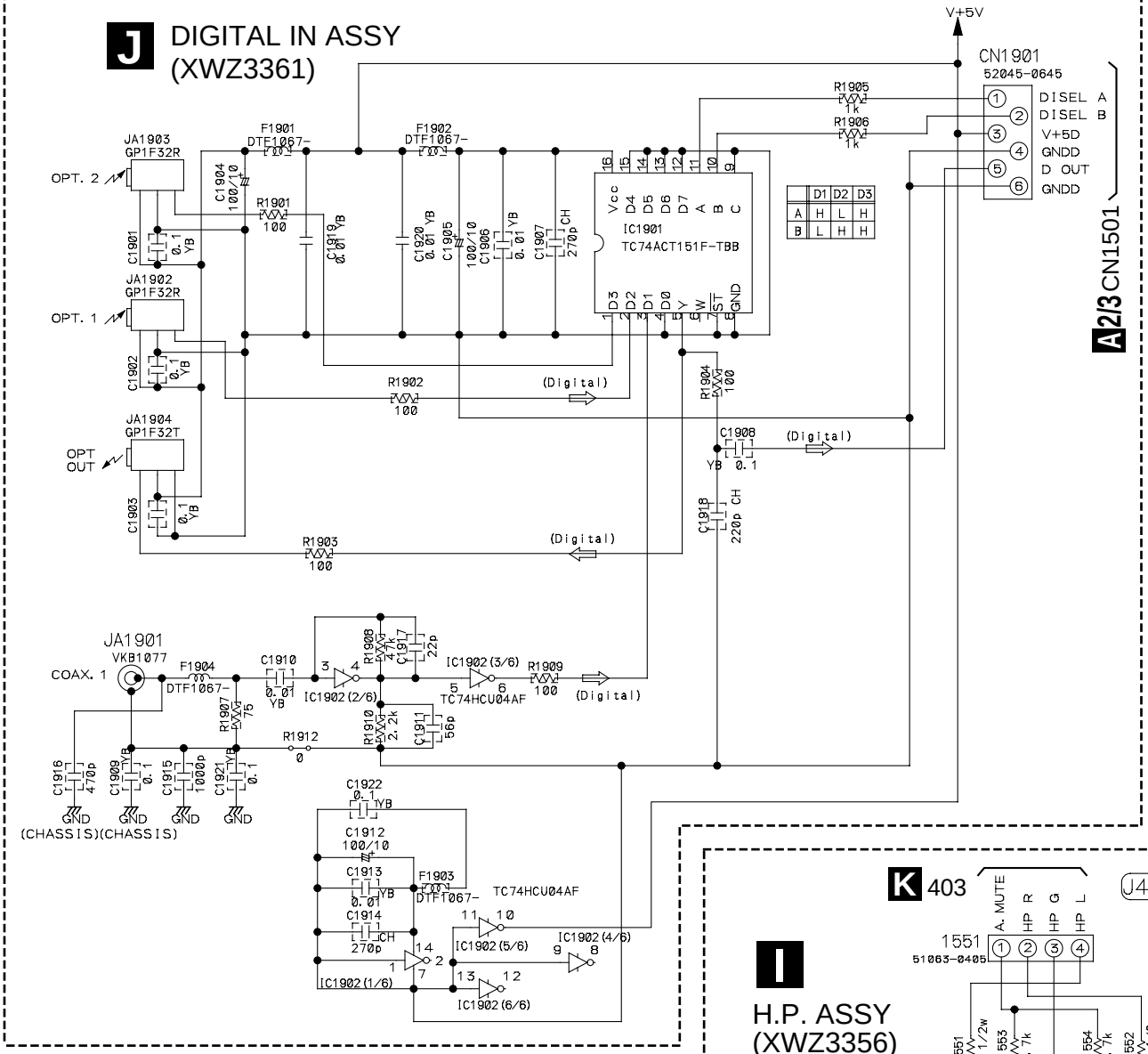
Vout1. MONITOR out
Vout2. MR out
Vout3. VCR/DVR out

-NOTE-

1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/10W unless otherwise noted.
   Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   Rated Voltage: 50V expect for electrolytic capacitors.
3. DIODES
   Indicated in 1SS355-TRB

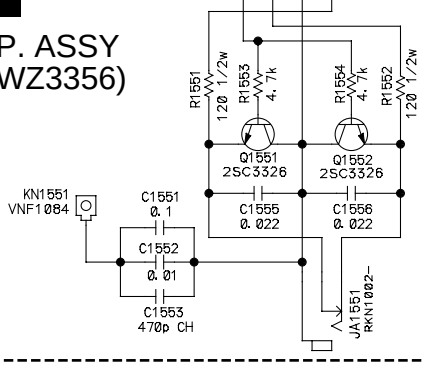
Video Signal Flow
Audio Signal Flow

J DIGITAL IN ASSY (XWZ3361)

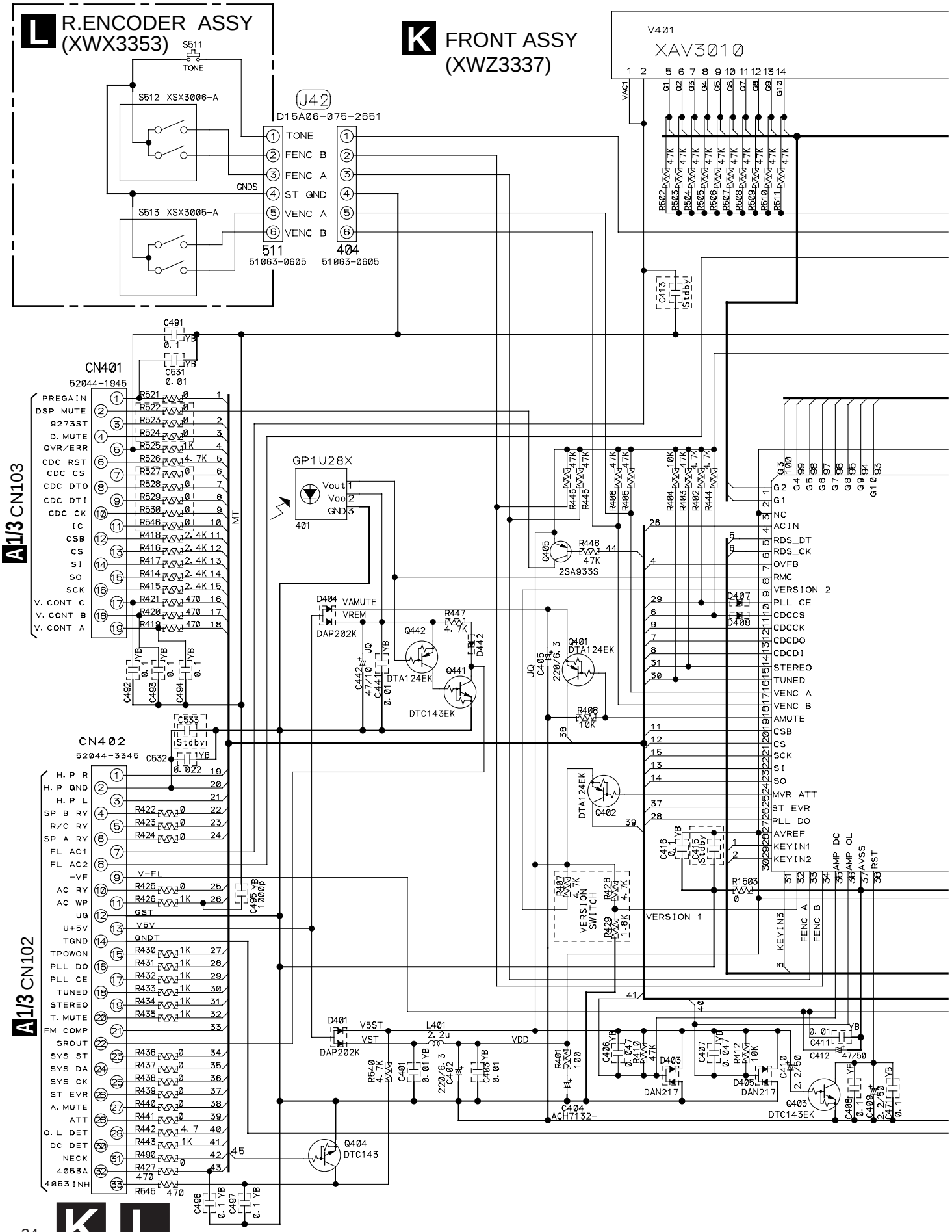


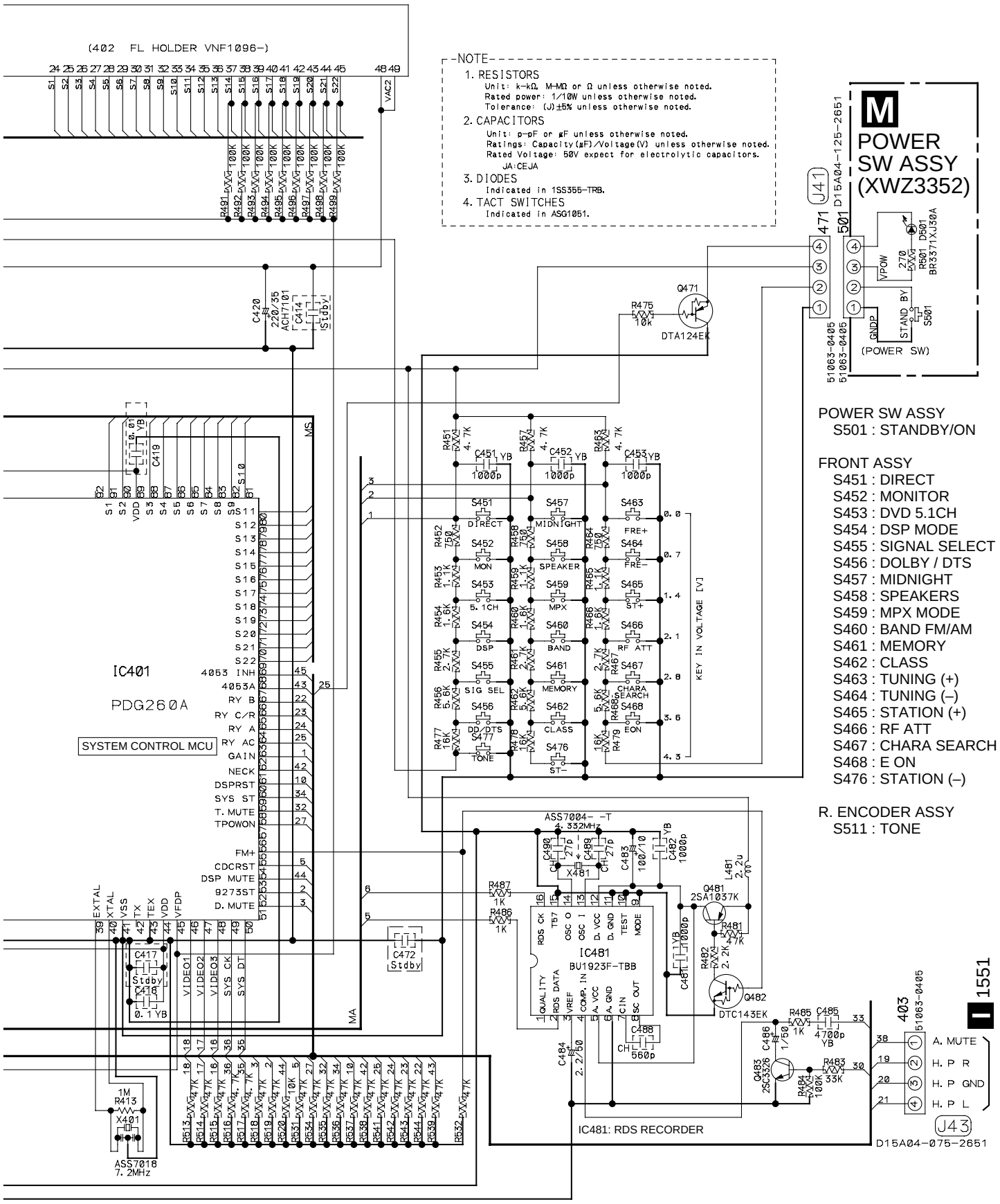
K 403

I H.P. ASSY (XWZ3356)



3.9 FRONT, R. ENCODER and POWER SW ASSYS




(402 FL HOLDER VNF1096-)
NOTE
1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or µF unless otherwise noted.
Ratings: Capacity(µF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
JA:CEJA
3. DIODES
Indicated in 1SS355-TRB.
4. TACT SWITCHES
Indicated in ASG1051.
M
POWER SW ASSY (XWZ3352)
J41
D15A04-125-2651
51063-0405
51063-0405
(POWER SW)
VPOW
STAND BY
GNDP
S501
D501
BR3371XJ30A
Q471
DTA124EK
R475
10K
POWER SW ASSY
S501 : STANDBY/ON
FRONT ASSY
S451 : DIRECT
S452 : MONITOR
S453 : DVD 5.1CH
S454 : DSP MODE
S455 : SIGNAL SELECT
S456 : DOLBY / DTS
S457 : MIDNIGHT
S458 : SPEAKERS
S459 : MPX MODE
S460 : BAND FM/AM
S461 : MEMORY
S462 : CLASS
S463 : TUNING (+)
S464 : TUNING (–)
S465 : STATION (+)
S466 : RF ATT
S467 : CHARA SEARCH
S468 : E ON
S476 : STATION (–)
R. ENCODER ASSY
S511 : TONE
KEY IN VOLTAGE [V]
IC401
PDG260A
SYSTEM CONTROL MCU
IC481
BU1923F-TBB
IC481: RDS RECORDER
ASS7004- -T
4.332MHz
ASS7018
7.2MHz
Q481
2SA1037K
Q482
DTC143EK
Q483
2SC3326
J43
D15A04-075-2651
A. MUTE
H. P R
H. P GND
H. P L
1551

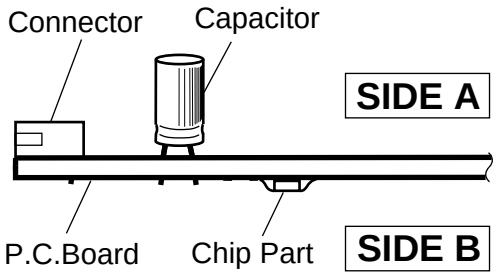
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

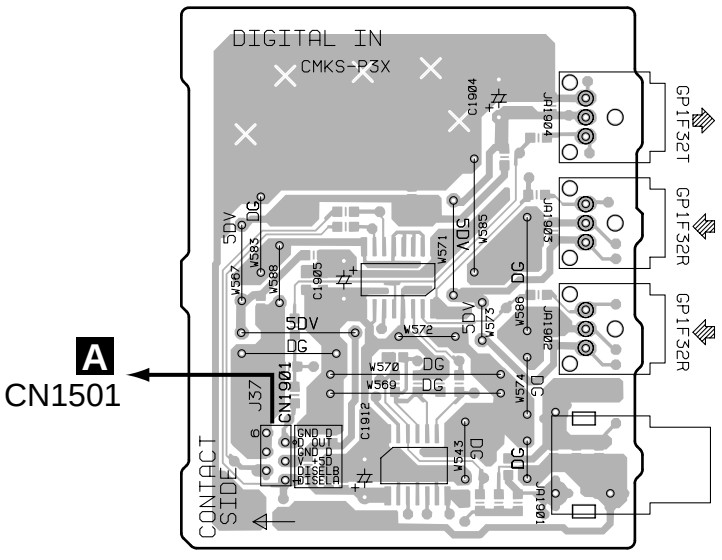
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 DIGITAL IN ASSY

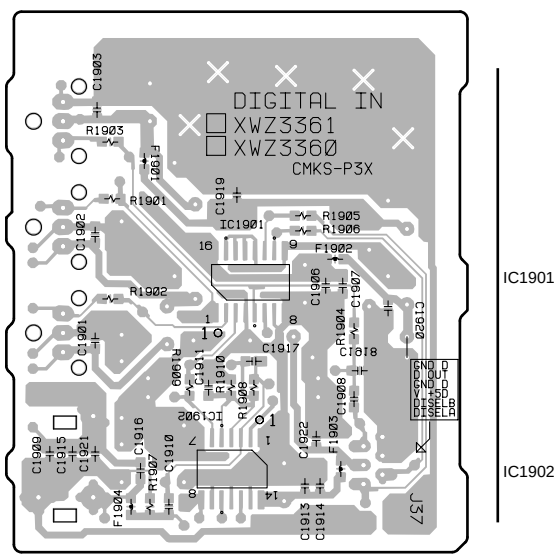
J DIGITAL IN ASSY



(XNP3035-B)

SIDE A

J DIGITAL IN ASSY

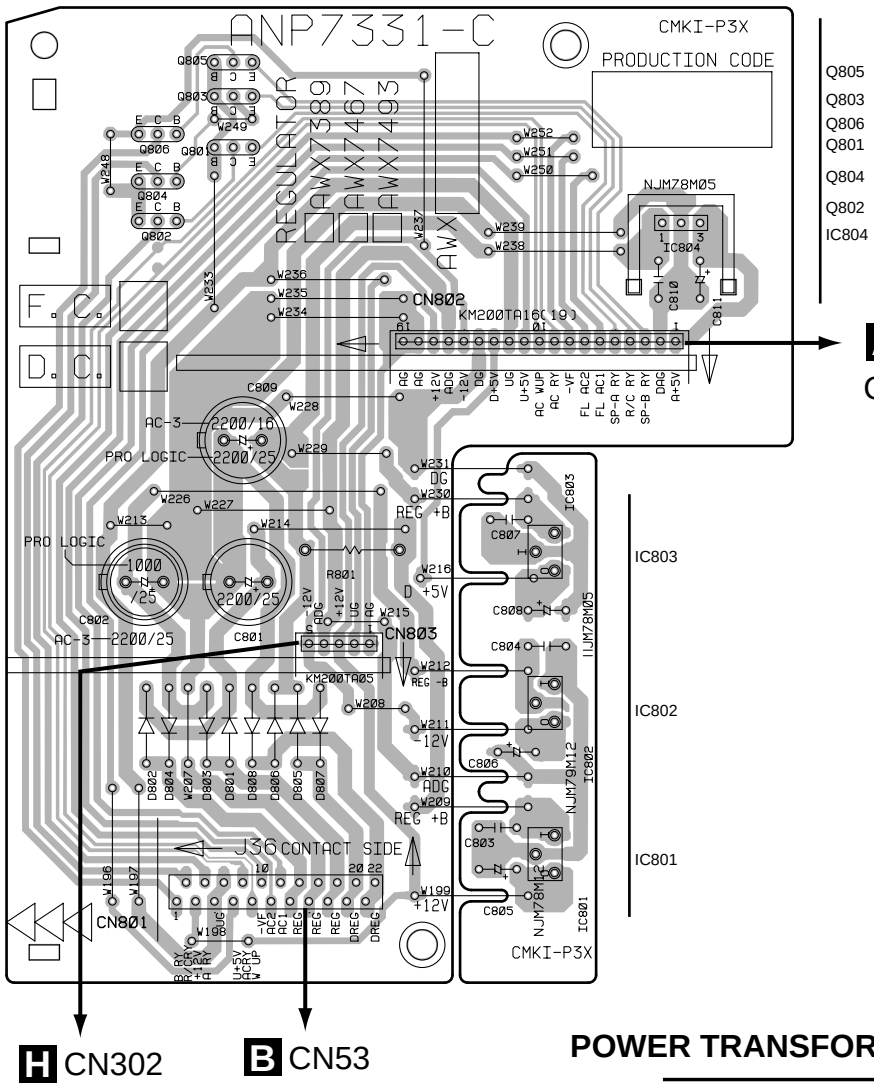


(XNP3035-B)

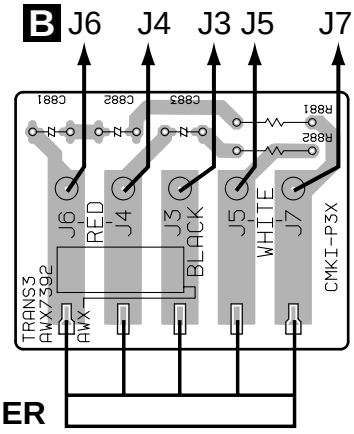
SIDE B

4.2 TRANS2, TRANS3, REGULATOR and TRANS1 ASSYS

E REGULATOR ASSY

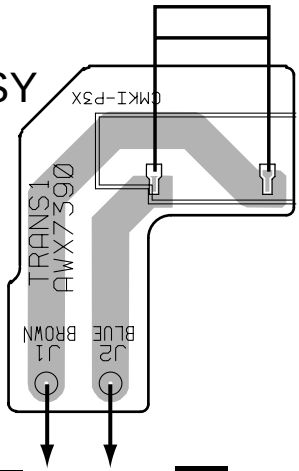


D TRANS3 ASSY



POWER TRANSFORMER

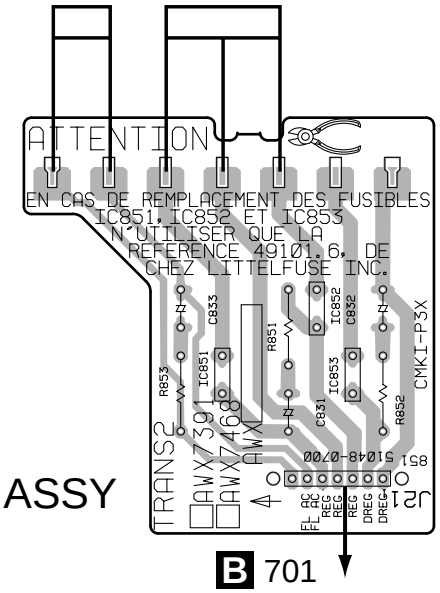
G TRANS1 ASSY



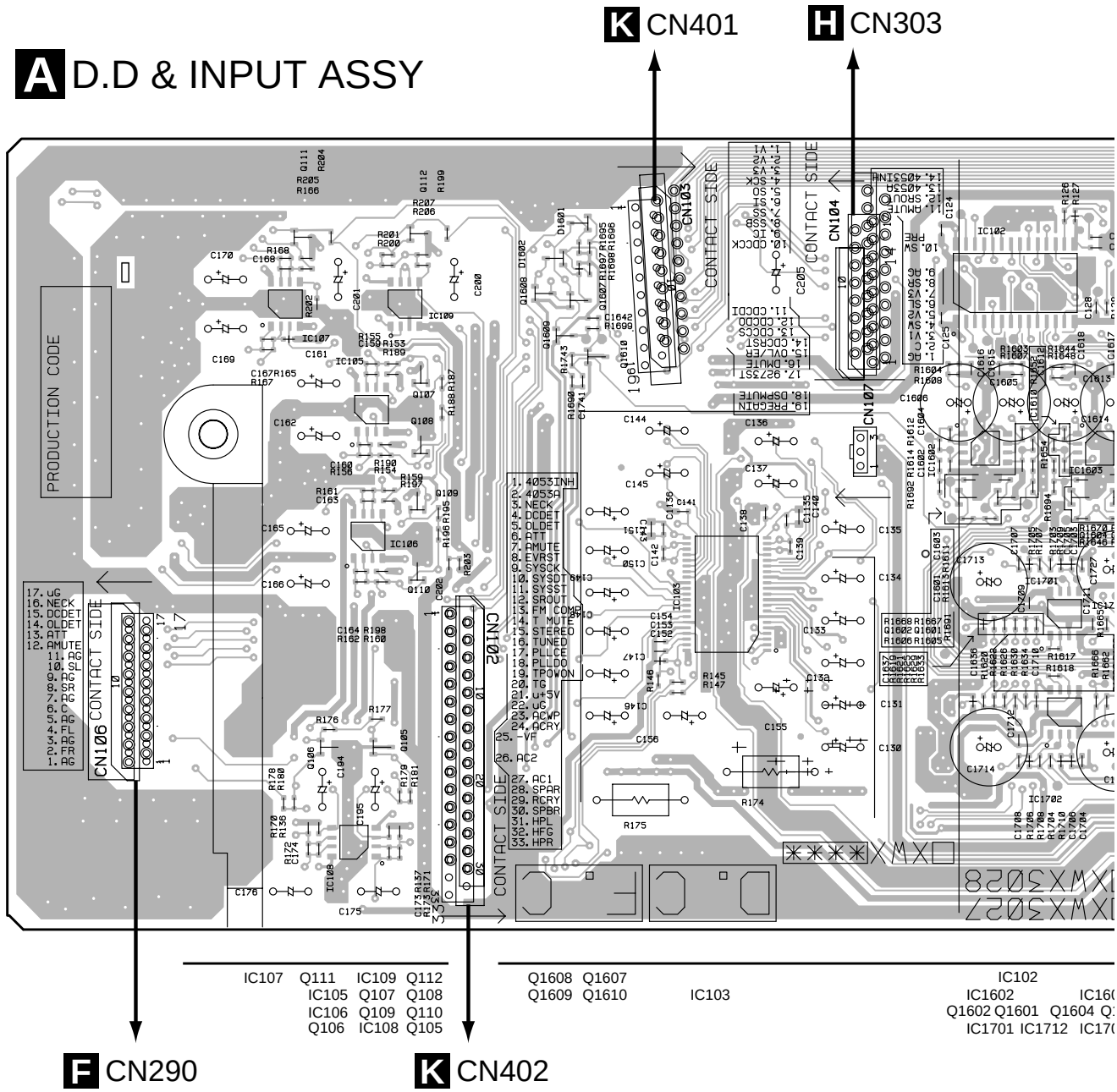
(ANP7331-C)

SIDE A

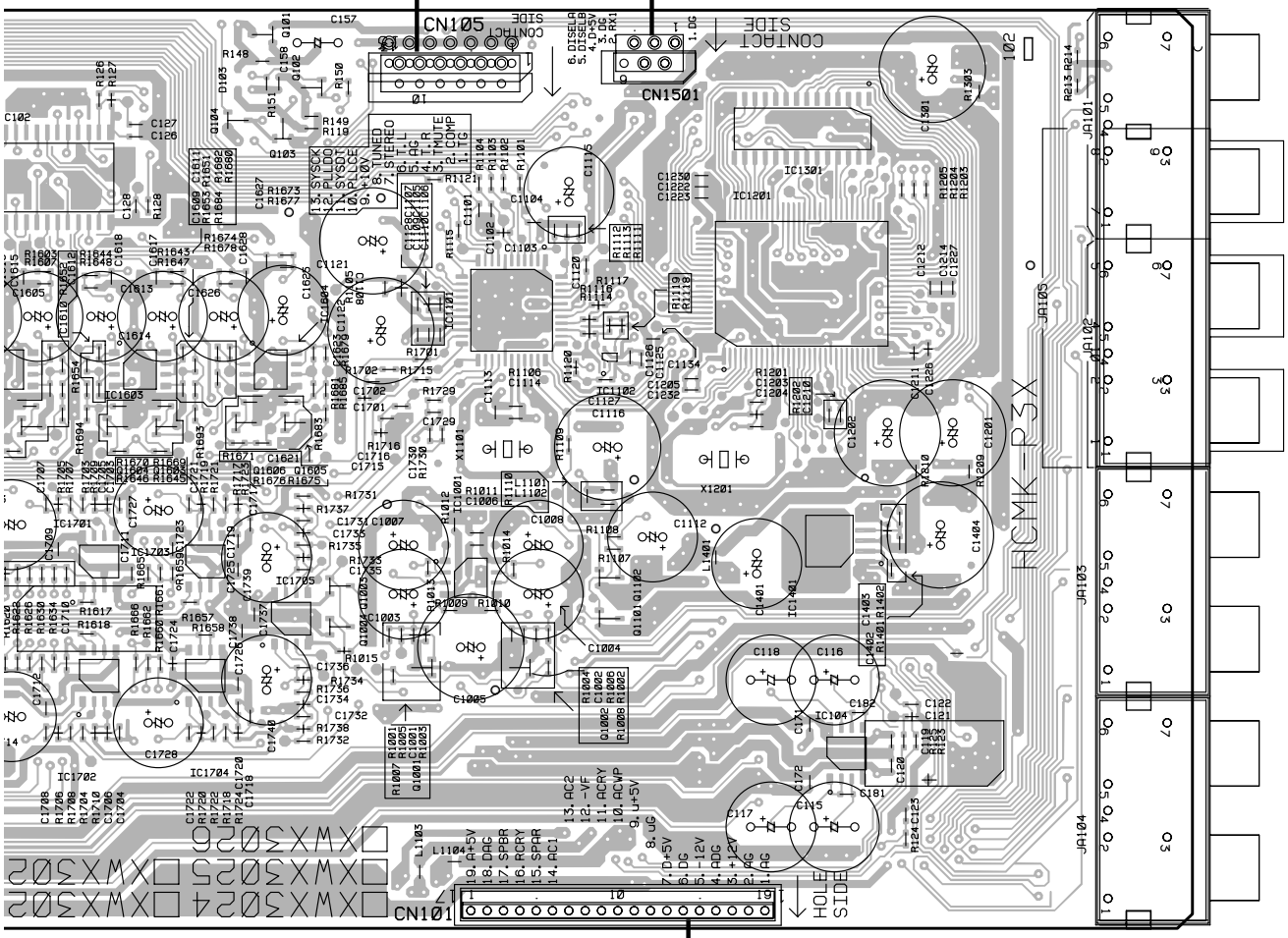
C TRANS2 ASSY



4.3 D.D & INPUT ASSY



FM/AM TUNER UNIT **J** CN1901



IC102
1602 IC1603 IC1604
2 Q1601 Q1604 Q1603 Q1606 Q1605
1701 IC1712 IC1703 IC1704 IC1705 Q1003 Q1004 Q1001 Q1002

Q104 Q101 Q103 Q102 IC1101
IC1001 Q1101 Q1102

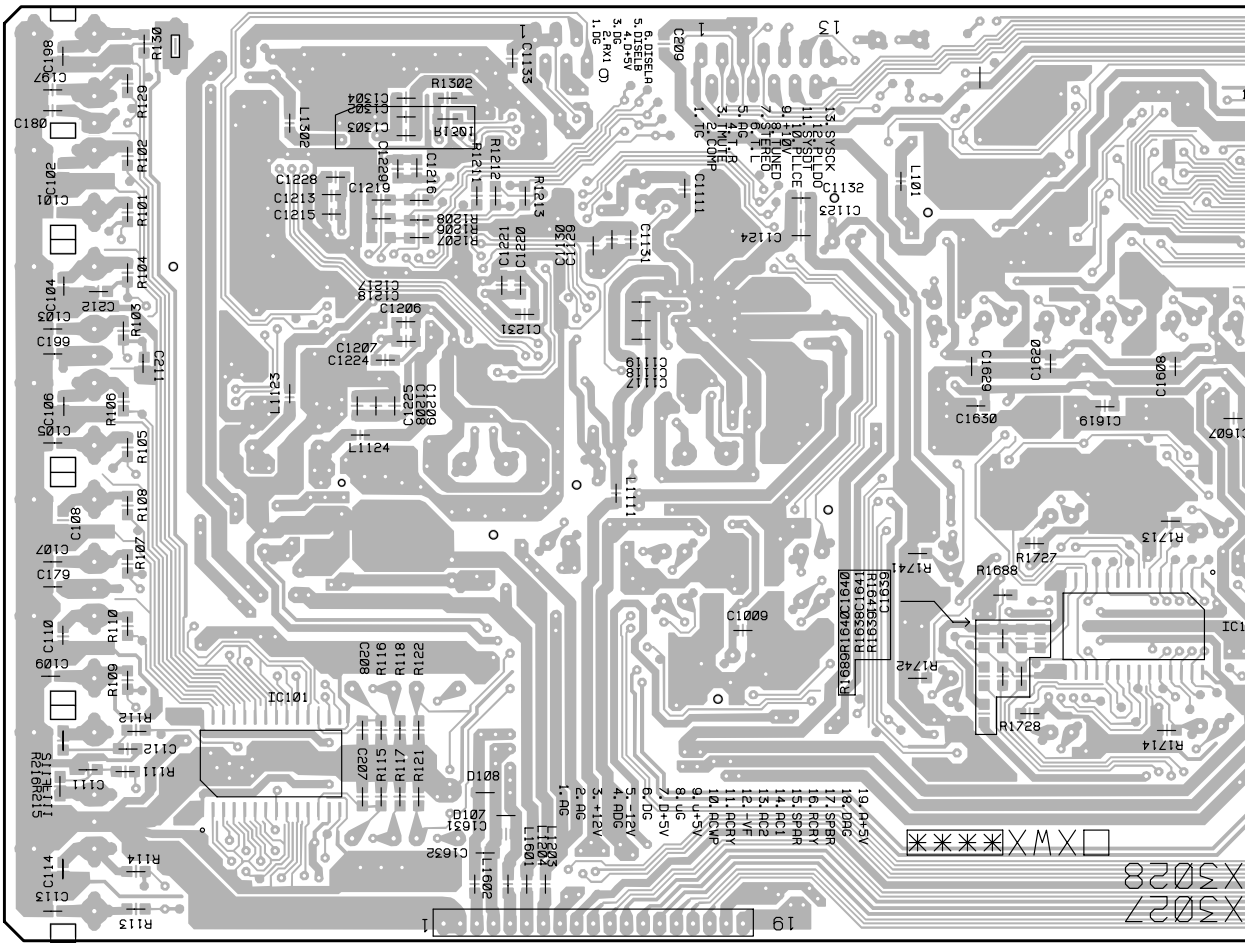
IC1301
IC1201
IC1401
IC104

(XNP3037-A)

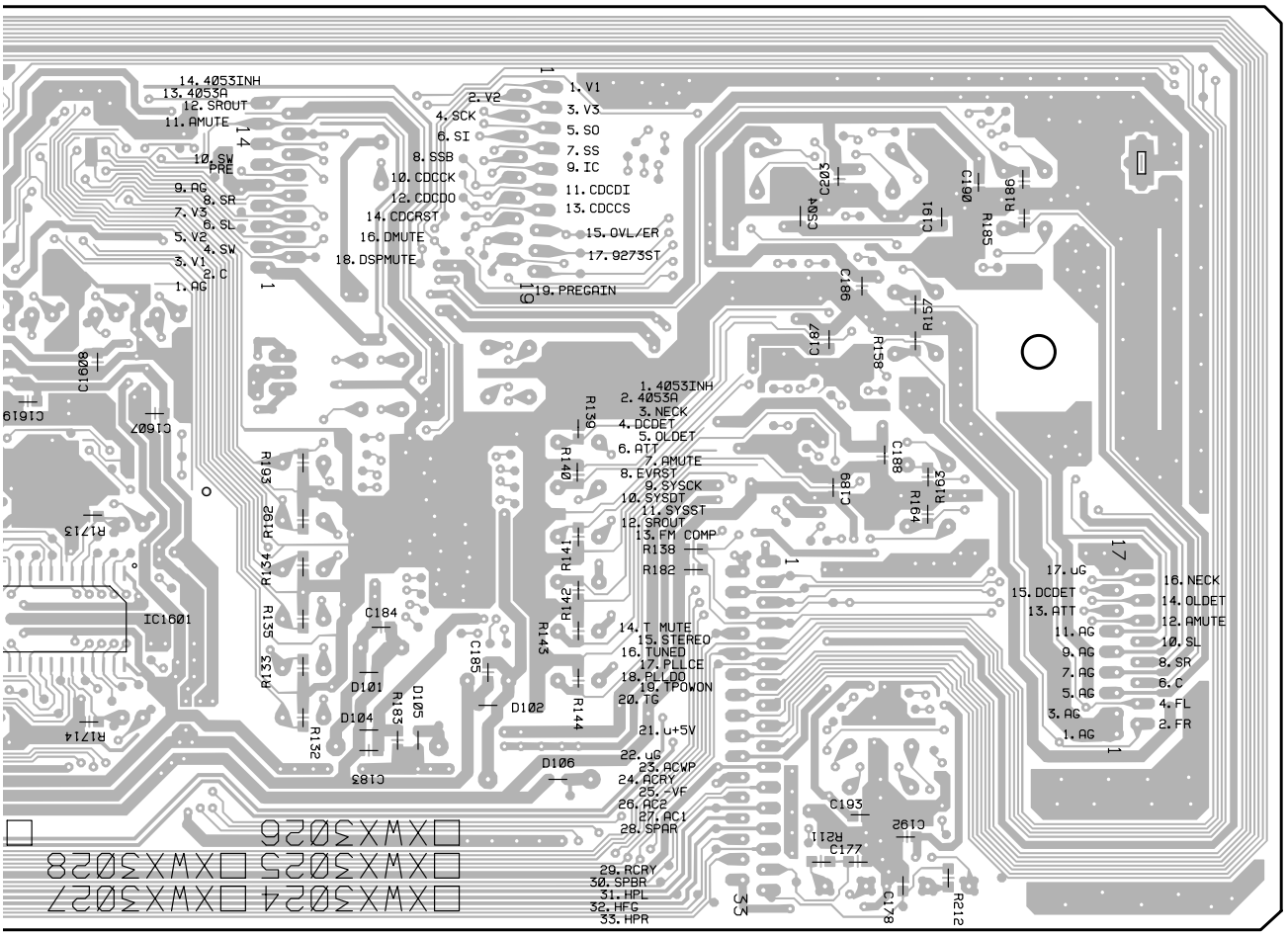
SIDE A

E CN802

A D.D & INPUT ASSY



IC101 IC1601

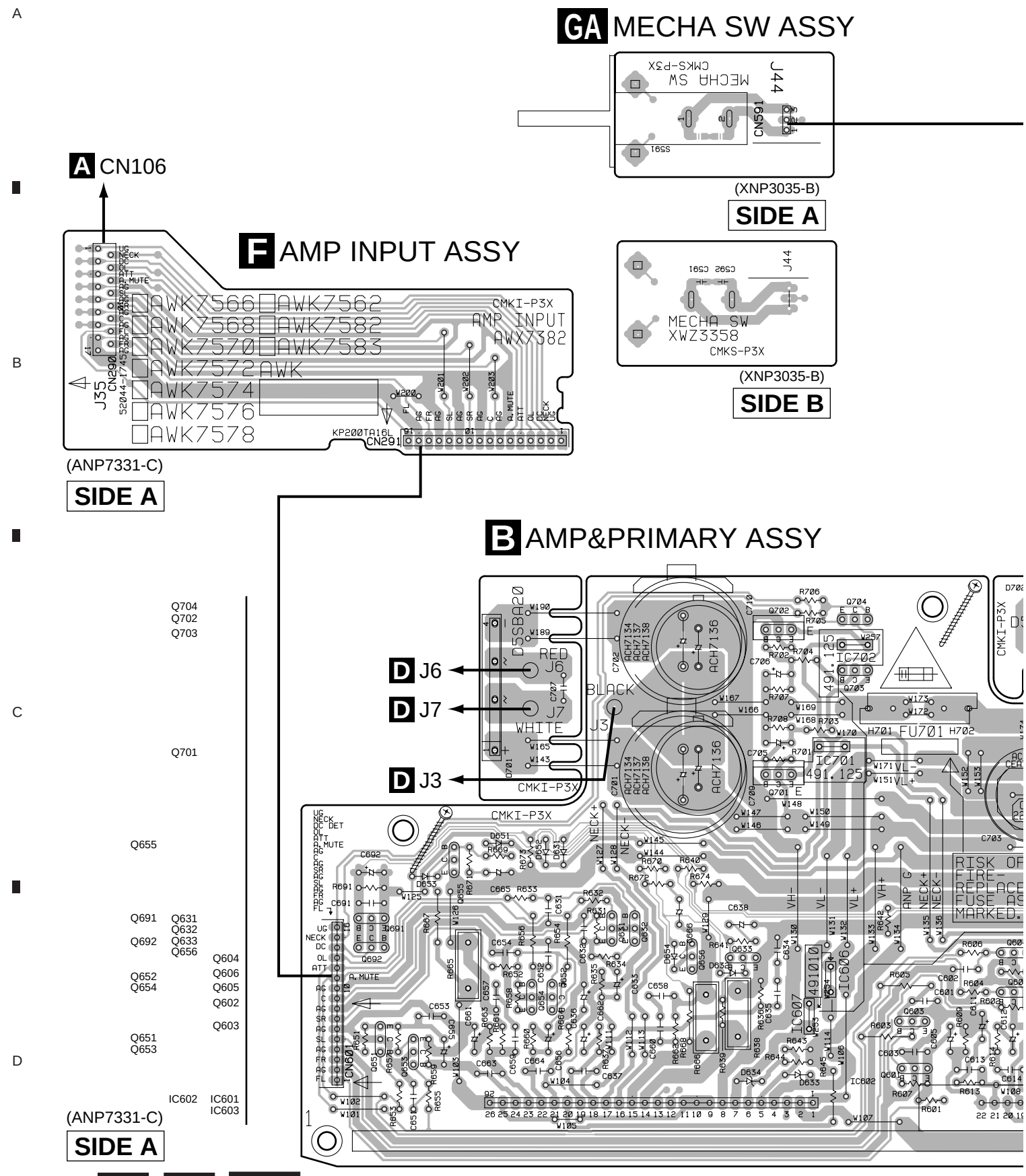


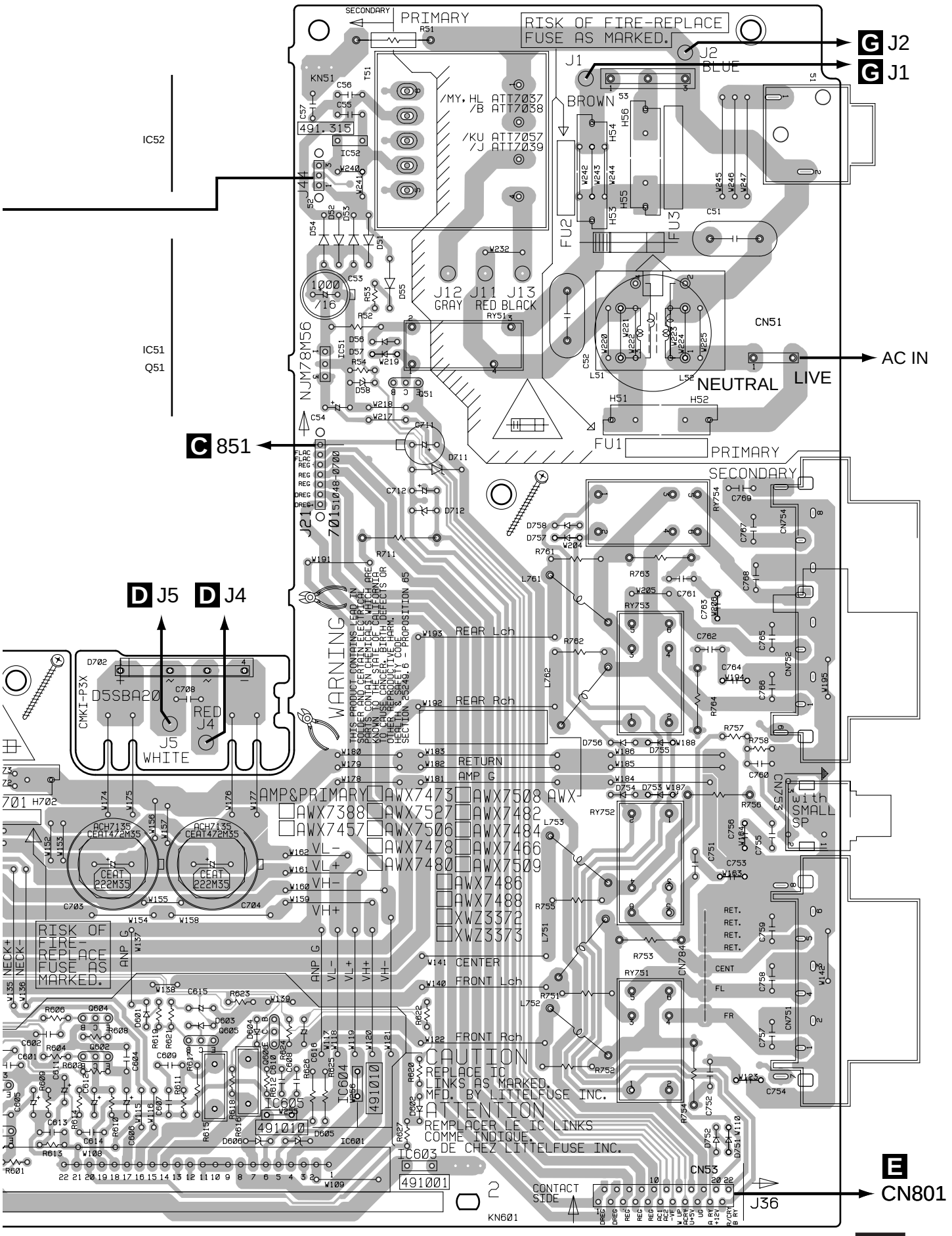
IC1601

(XNP3037-A)

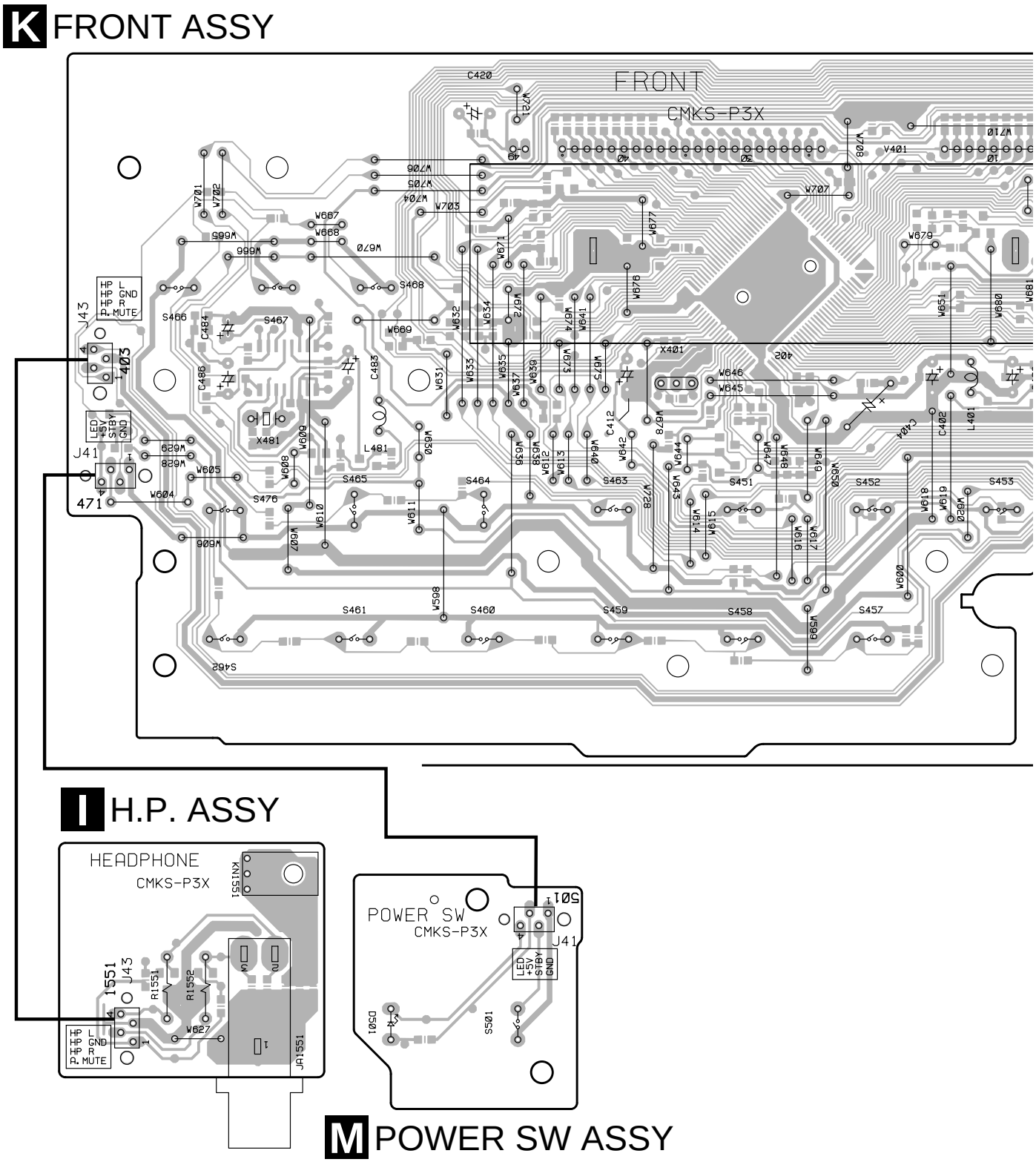
SIDE B

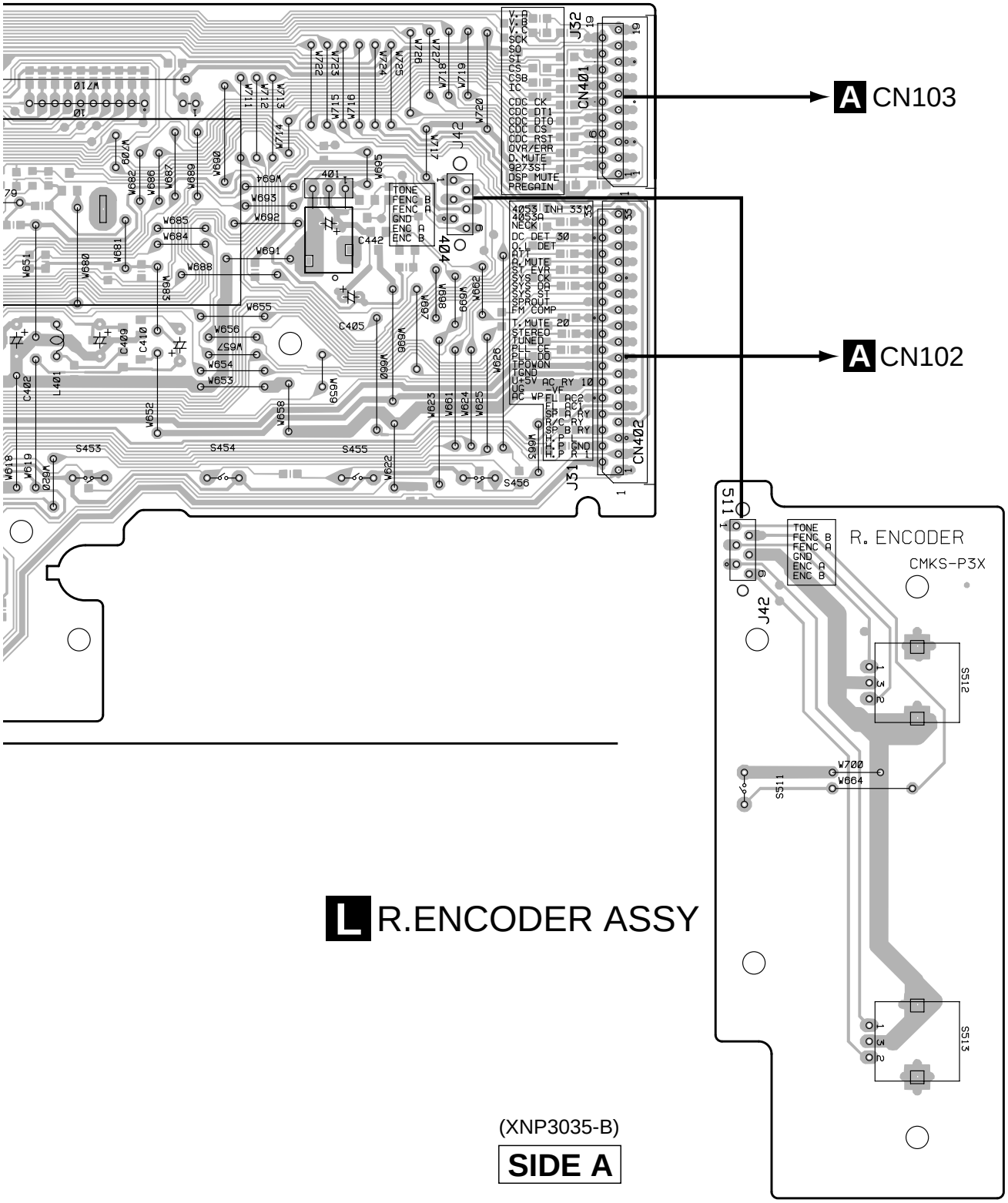
4.4 AMP INPUT, AMP&PRIMARY and MECHA SW ASSYS



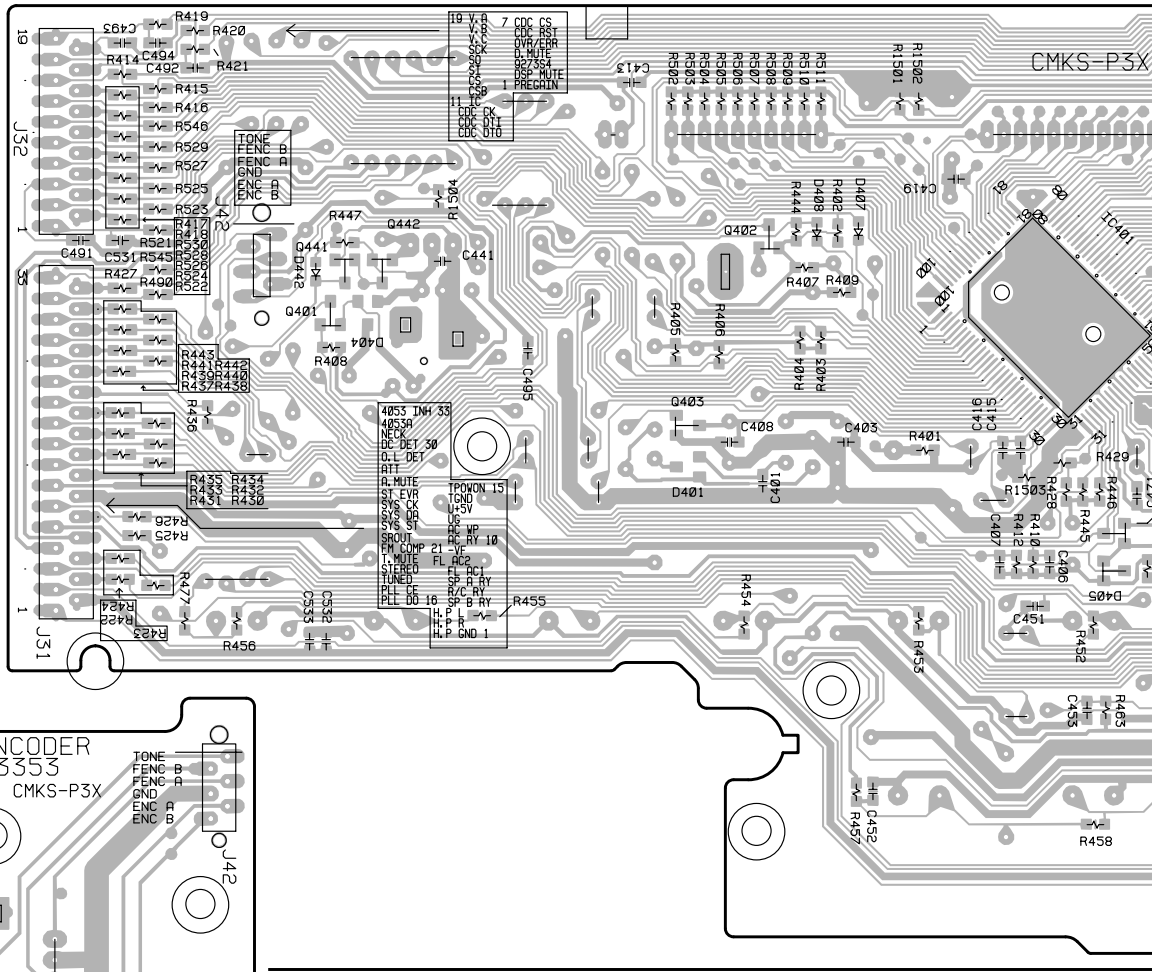

SECONDARY
PRIMARY
RISK OF FIRE-REPLACE FUSE AS MARKED.
J2 BLUE
J1 BROWN
G J2
G J1
/MY, HL ATT7037 /B ATT7038
/KU ATT7057 /J ATT7039
491.315
IC52
IC51
Q51
NJM78M56
1000 /16
J12 J11 J13 GRAY RED BLACK
CN51
AC IN
NEUTRAL
LIVE
FU1
FU2
FU3
PRIMARY
SECONDARY
C 851
J2101510048-0700
D5SBA20
CMKI-P3X
D J5 D J4
J5 WHITE
J4 RED
WARNING
REAR Lch
REAR Rch
RETURN
AMP G
CENTER
FRONT Lch
FRONT Rch
AMP&PRIMARY
AWX7473 AWX7508 AWX
AWX7388 AWX7527 AWX7482
AWX7457 AWX7506 AWX7484
AWX7478 AWX7466
AWX7480 AWX7509
AWX7486
AWX7488
XWZ3372
XWZ3373
VL-
VL+
VH-
VH+
ACH7135 CEAT472M35
CEAT 222M35
RISK OF FIRE-REPLACE FUSE AS MARKED.
CAUTION
REPLACE IC LINKS AS MARKED. MFD. BY LITTELFUSE INC.
ATTENTION
REMPLACER LE IC LINKS COMME INDIQUE. DE CHEZ LITTELFUSE INC.
IC604
IC605
IC601
IC603
491010
491001
CN753 with SMALL SP
CN754
CN752
CN751
CN784
CN53
CONTACT SIDE
J36
E CN801
KN601
RY751
RY752
RY753
RY754
RET.
CENT
FL
FR

4.5 H.P., FRONT, R.ENCODER and POWER SW ASSYS

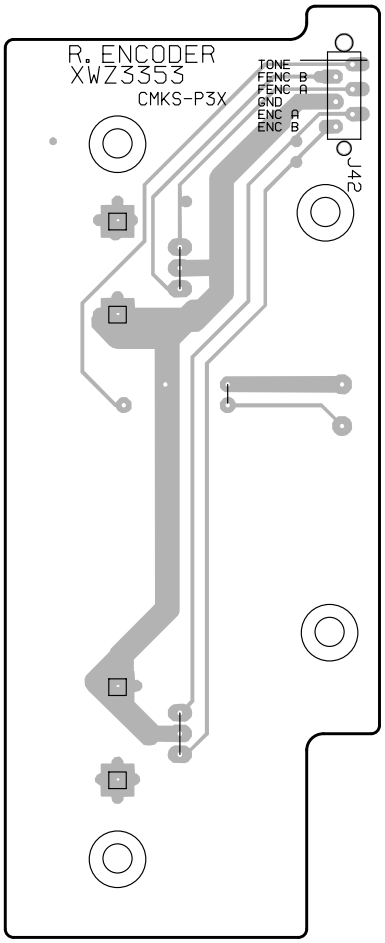



A CN103
A CN102
L R.ENCODER ASSY
R. ENCODER
CMKS-P3X
(XNP3035-B)
SIDE A

K FRONT ASSY

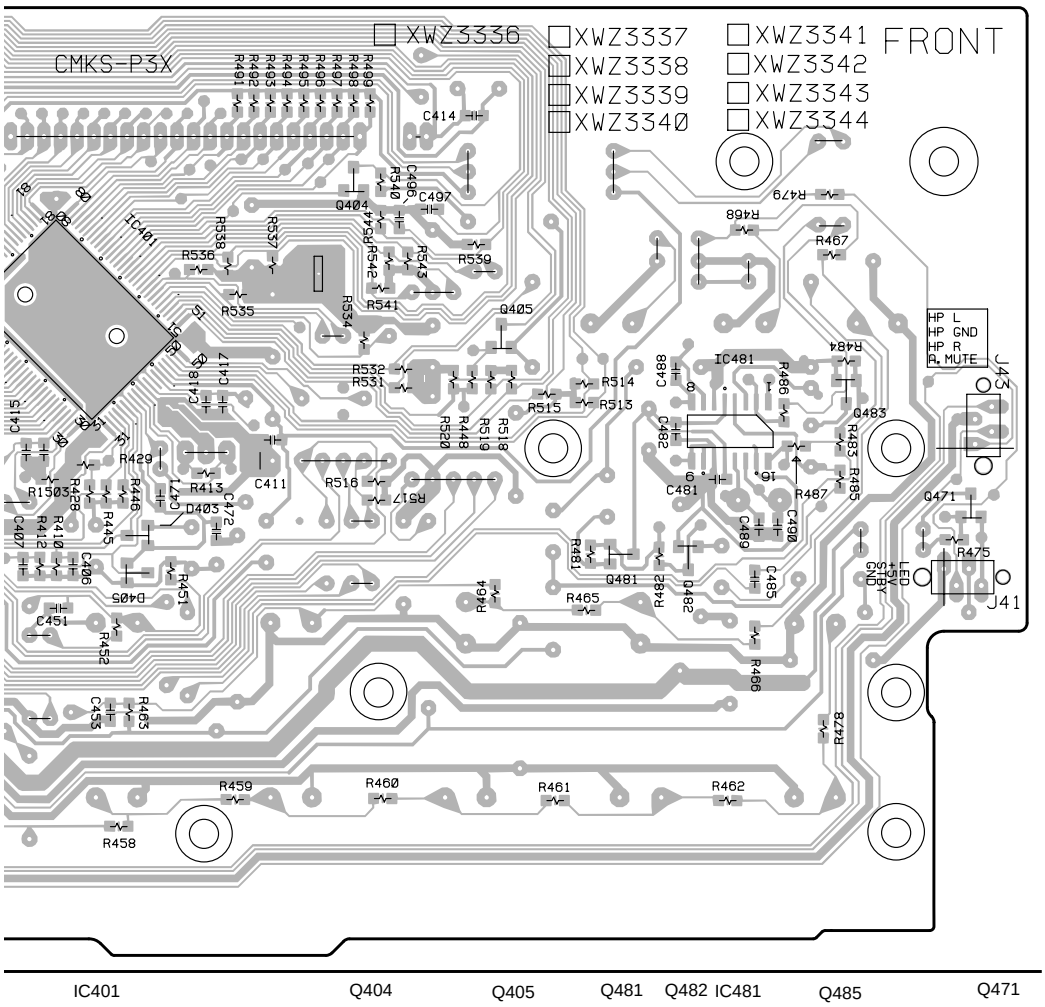


L R.ENCODER ASSY

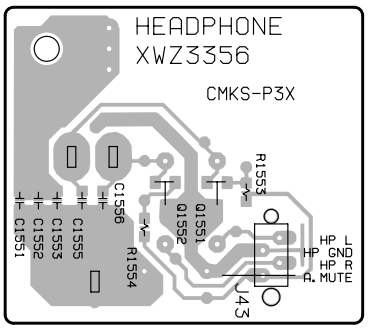


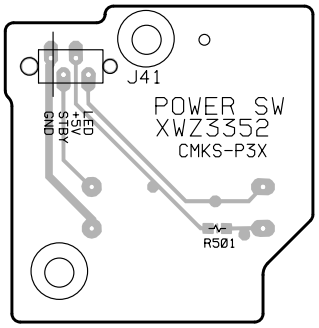
(XNP3035-B)

SIDE B



I H.P. ASSY

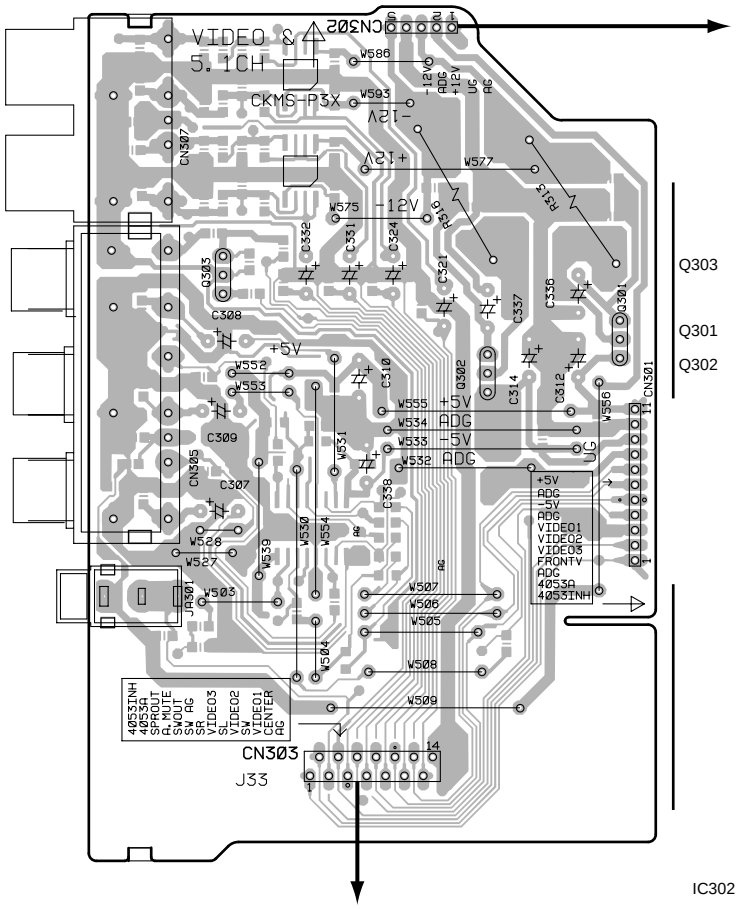




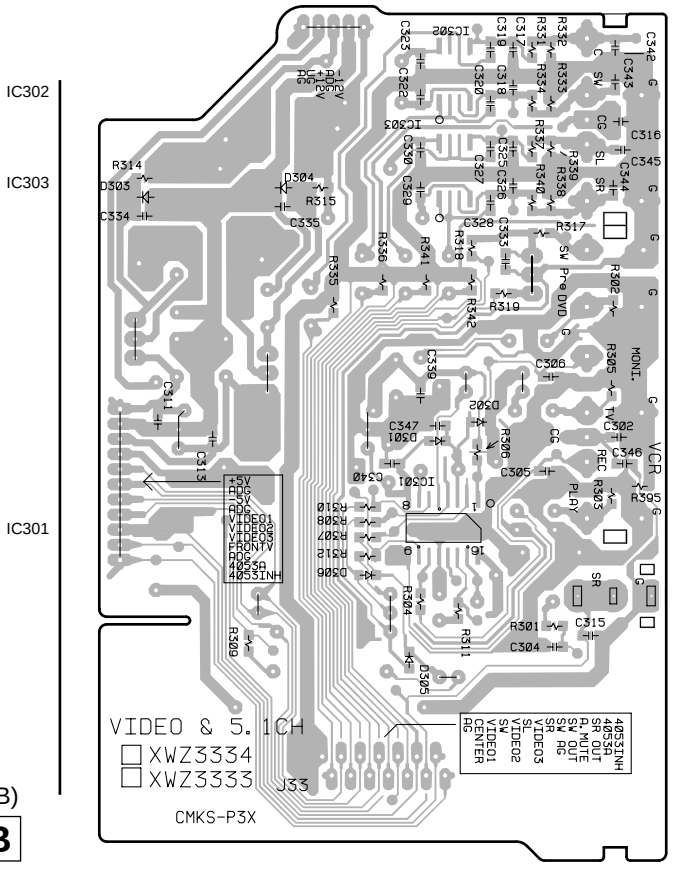
M POWER SW ASSY

4.6 VIDEO&6CH IN ASSY

H VIDEO&6CH IN ASSY



H VIDEO&6CH IN ASSY



5. PCB PARTS LIST

NOTES :
- *Parts marked by "* NSP *" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

LIST OF PCB ASSEMBLIES

Mark	No.	Description	Part No.
NSP		COMPLEX ASSY	XWK3002
		├ POWER SW ASSY	XWZ3352
		├ R.ENCODER ASSY	XWZ3353
		├ VIDEO&6CH IN ASSY	XWZ3333
		├ DIGITAL IN ASSY	XWZ3361
		├ FRONT ASSY	XWZ3337
NSP		├ H.P. ASSY	XWZ3356
		└ MECHA SW ASSY	XWZ3358
NSP		AMP&PS ASSY	XWK3016
NSP		├ AMP INPUT ASSY	AWX7382
		├ AMP&PRIMARY ASSY	XWZ3373
		├ REGULATOR ASSY	AWX7493
		├ TRANS2 ASSY	AWX7468
NSP		├ TRANS1 ASSY	AWX7390
NSP		└ TRANS3 ASSY	AWX7392
		D.D & INPUT ASSY	XWX3025

A D.D & INPUT ASSY

SEMICONDUCTORS

IC1001	OP-AMP IC	NJM2100M
IC101	ANALOG SWITCH IC	TC9273F-007
IC102	E-SW IC	TC9163AF
IC103	E-VR IC	M62446FP
IC104	OP-AMP IC	UPC4570G2-TFB
IC105	OP-AMP IC	UPC4570G2-TFB
IC106	OP-AMP IC	UPC4570G2-TFB
IC107	OP-AMP IC	UPC4570G2-TFB
IC108	OP-AMP IC	M5216FP
IC1101	MULTI CH CODEC IC	CS4226-KQ(J)
IC1201	DTS DECORDER IC	YSS912C
IC1301	SRAM	IS61C256AH-15J
IC1401	REGULATOR IC	PQ20WZ51
IC1601	E-SW IC	TC9164AF
IC1602	IC	NJM4558MD
IC1603	IC	NJM4558MD
IC1604	IC	NJM4558MD
IC1701	IC	NJM4558MD
IC1702	IC	NJM4558MD
IC1703	IC	NJM4558MD
IC1704	IC	NJM4558MD
IC1705	IC	NJM4558MD
Q 1001	CHIP MUTING TR	2SC3326
Q 1002	CHIP MUTING TR	2SC3326
Q 1003	CHIP DIGITAL TRANS.	DTA124EK
Q 1004	DIGITAL TRANSISTOR	DTC124EK
Q 101	CHIP TRANSISTOR	2SC2412K
Q 102	CHIP TRANSISTOR	2SC2412K
Q 105	CHIP MUTING TR	2SC3326
Q 106	CHIP MUTING TR	2SC3326
Q 107	CHIP MUTING TR	2SC3326
Q 108	CHIP MUTING TR	2SC3326
Q 109	CHIP MUTING TR	2SC3326
Q 110	CHIP MUTING TR	2SC3326
Q 1101	CHIP DIGITAL TRANS.	DTA124EK
Q 1102	DIGITAL TRANSISTOR	DTC124EK
Q 111	CHIP MUTING TR	2SC3326
Q 112	CHIP MUTING TR	2SC3326
Q 1601	CHIP MUTING TR	2SC3326
Q 1602	CHIP MUTING TR	2SC3326
Q 1603	CHIP MUTING TR	2SC3326
Q 1604	CHIP MUTING TR	2SC3326
Q 1605	CHIP MUTING TR	2SC3326
Q 1606	CHIP MUTING TR	2SC3326
Q 1607	CHIP DIGITAL TRANS.	DTA124EK
Q 1608	CHIP DIGITAL TRANS.	DTA124EK
Q 1609	DIGITAL TRANSISTOR	DTC124EK
Q 1610	CHIP DIGITAL TRANS.	DTA124EK
D 101	CHIP ZENER DIODE	UDZS6.8B
D 102	CHIP ZENER DIODE	UDZS6.8B
D 103	DIODE	1SS355
D 104	CHIP ZENER DIODE	UDZS5.1B
D 105	DIODE	1SS355
D 106	DIODE	1SS355
D 1601	DIODE	1SS181
D 1602	DIODE	1SS181

COILS AND FILTERS

L 101	CHIP SOLID INDUCTOR	QTL1013
L 1101	CHIP SOLID INDUCTOR	QTL1013
L 1102	CHIP SOLID INDUCTOR	QTL1013
L 1103	CHIP SOLID INDUCTOR	QTL1013
L 1104	CHIP SOLID INDUCTOR	QTL1013
L 111	CHIP SOLID INDUCTOR	QTL1013
L 1111	CHIP SOLID INDUCTOR	QTL1013
L 112	CHIP SOLID INDUCTOR	QTL1013
L 1123	CHIP SOLID INDUCTOR	QTL1013
L 1124	CHIP SOLID INDUCTOR	QTL1013
L 1203	CHIP SOLID INDUCTOR	QTL1013
L 1204	CHIP SOLID INDUCTOR	QTL1013

Mark	No.	Description	Part No.
	L 1302	CHIP SOLID INDUCTOR	QTL1013
	L 1401	CHIP SOLID INDUCTOR	ATL7002
	L 1601	CHIP SOLID INDUCTOR	QTL1013
	L 1602	CHIP SOLID INDUCTOR	QTL1013

CAPACITORS

	C 1001	CERAMIC CAPACITOR	CCSRCH101J50
	C 1002	CERAMIC CAPACITOR	CCSRCH101J50
	C 1003	ELECT. CAPACITOR	CEAT4R7M50
	C 1004	ELECT. CAPACITOR	CEAT4R7M50
	C 1005	ELECT. CAPACITOR	CEAT221M6R3
	C 1006	CHIP CERAMIC C.	CKSRYB103K50
	C 1007	ELECT. CAPACITOR	CEJQNP100M10
	C 1008	ELECT. CAPACITOR	CEJQNP100M10
	C 1009	CERAMIC CAPACITOR	CKSRYF104Z25
	C 101	CERAMIC CAPACITOR	CCSRCH101J50
	C 102	CERAMIC CAPACITOR	CCSRCH101J50
	C 103	CERAMIC CAPACITOR	CCSRCH101J50
	C 104	CERAMIC CAPACITOR	CCSRCH101J50
	C 105	CERAMIC CAPACITOR	CCSRCH101J50
	C 106	CERAMIC CAPACITOR	CCSRCH101J50
	C 107	CERAMIC CAPACITOR	CCSRCH101J50
	C 108	CERAMIC CAPACITOR	CCSRCH101J50
	C 109	CERAMIC CAPACITOR	CCSRCH101J50
	C 110	CERAMIC CAPACITOR	CCSRCH101J50
	C 1101	CHIP CERAMIC C.	CCSRCH471J50
	C 1102	CERAMIC CAPACITOR	CCSRCH102J50
	C 1103	CERAMIC CAPACITOR	CCSRCH390J50
	C 1104	CERAMIC CAPACITOR	CCSRCH390J50
	C 1105	CERAMIC CAPACITOR	CKSRYF104Z16
	C 1106	CHIP CERAMIC C.	CCSRCH471J50
	C 1107	CHIP CERAMIC C.	CKSRYB223K50
	C 1108	CERAMIC CAPACITOR	CKSQYB224K16
	C 1109	CERAMIC CAPACITOR	CKSRYF104Z16
	C 111	CERAMIC CAPACITOR	CCSRCH101J50
	C 1110	CHIP CERAMIC C.	CCSRCH471J50
	C 1111	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1112	ELECT. CAPACITOR	CEAT1R0M50
	C 1113	CERAMIC CAPACITOR	CCSRCH180J50
	C 1114	CERAMIC CAPACITOR	CCSRCH180J50
	C 1115	ELECT. CAPACITOR	CEATR47M50
	C 1116	ELECT. CAPACITOR	CEAT101M10
	C 1117	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1118	CHIP CERAMIC C.	CCSRCH471J50
	C 1119	CHIP CERAMIC C.	CCSRCH271J50
	C 112	CERAMIC CAPACITOR	CCSRCH101J50
	C 1121	ELECT. CAPACITOR	CEAT101M10
	C 1122	ELECT. CAPACITOR	CEAT101M10
	C 1123	CHIP CERAMIC C.	CCSRCH331J50
	C 1124	CHIP CERAMIC C.	CCSRCH331J50
	C 1128	CHIP CERAMIC C.	CKSRYB103K50
	C 1129	CHIP CERAMIC C.	CKSRYB103K50
	C 113	CERAMIC CAPACITOR	CCSRCH101J50
	C 1130	CHIP CERAMIC C.	CCSRCH471J50
	C 1132	CHIP CERAMIC C.	CKSRYB103K50
	C 1133	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1134	CHIP CERAMIC C.	CKSRYB103K50
	C 1135	CERAMIC CAPACITOR	CKSRYB104K16
	C 1136	CERAMIC CAPACITOR	CKSRYB104K16
	C 114	CERAMIC CAPACITOR	CCSRCH101J50
	C 115	ELECT. CAPACITOR	CEAT4R7M50

Mark	No.	Description	Part No.
	C 116	ELECT. CAPACITOR	CEAT4R7M50
	C 117	ELECT. CAPACITOR	CEAT470M25
	C 118	ELECT. CAPACITOR	CEAT470M25
	C 119	CHIP CERAMIC C.	CKSRYB103K50
	C 120	CHIP CERAMIC C.	CKSRYB103K50
	C 1201	ELECT. CAPACITOR	CEAT101M10
	C 1202	ELECT. CAPACITOR	CEAT221M6R3
	C 1203	CHIP CERAMIC C.	CCSRCH200J50
	C 1204	CHIP CERAMIC C.	CCSRCH200J50
	C 1205	CHIP CERAMIC C.	CKSRYB103K50
	C 1206	CHIP CERAMIC C.	CKSRYB103K50
	C 1207	CERAMIC CAPACITOR	CCSRCH101J50
	C 1208	CHIP CERAMIC C.	CKSRYB103K50
	C 1209	CERAMIC CAPACITOR	CCSRCH101J50
	C 121	CERAMIC CAPACITOR	CCSRCH101J50
	C 1210	CHIP CERAMIC C.	CCSRCH471J50
	C 1211	CHIP CERAMIC C.	CKSRYB103K50
	C 1212	CERAMIC CAPACITOR	CCSRCH101J50
	C 1213	CERAMIC CAPACITOR	CCSRCH101J50
	C 1214	CHIP CERAMIC C.	CKSRYB103K50
	C 1215	CHIP CERAMIC C.	CKSRYB103K50
	C 1216	CHIP CERAMIC C.	CKSRYB103K50
	C 1217	CERAMIC CAPACITOR	CCSRCH101J50
	C 1218	CERAMIC CAPACITOR	CCSRCH101J50
	C 1219	CERAMIC CAPACITOR	CKSRYF104Z25
	C 122	CERAMIC CAPACITOR	CCSRCH101J50
	C 1220	CHIP CERAMIC C.	CKSRYB103K50
	C 1221	CERAMIC CAPACITOR	CCSRCH101J50
	C 1222	CHIP CERAMIC C.	CKSRYB103K50
	C 1223	CERAMIC CAPACITOR	CCSRCH101J50
	C 1224	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1225	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1226	CERAMIC CAPACITOR	CKSRYF104Z16
	C 1227	CERAMIC CAPACITOR	CKSRYF104Z16
	C 1228	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1229	CERAMIC CAPACITOR	CKSRYF104Z25
	C 123	CERAMIC CAPACITOR	CCSRCH101J50
	C 1230	CERAMIC CAPACITOR	CKSRYF104Z16
	C 1231	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1232	CERAMIC CAPACITOR	CKSRYF104Z16
	C 124	CHIP CERAMIC C.	CKSRYB103K50
	C 125	CHIP CERAMIC C.	CKSRYB103K50
	C 126	CERAMIC CAPACITOR	CCSRCH101J50
	C 127	CERAMIC CAPACITOR	CCSRCH101J50
	C 128	CERAMIC CAPACITOR	CCSRCH101J50
	C 130	ELECT. CAPACITOR	CEAT100M50
	C 1301	ELECT. CAPACITOR	CEJA101M10
	C 1302	CHIP CERAMIC C.	CKSRYB103K50
	C 1303	CERAMIC CAPACITOR	CCSRCH101J50
	C 1304	CERAMIC CAPACITOR	CKSRYF104Z25
	C 131	ELECT. CAPACITOR	CEAT100M50
	C 132	ELECT. CAPACITOR	CEAT100M50
	C 133	ELECT. CAPACITOR	CEAT100M50
	C 134	ELECT. CAPACITOR	CEAT100M50
	C 135	ELECT. CAPACITOR	CEAT100M50
	C 136	ELECT. CAPACITOR	CEAT100M50
	C 137	ELECT. CAPACITOR	CEAT100M50
	C 138	CHIP CERAMIC C.	CKSRYB822K50
	C 139	CHIP CERAMIC C.	CKSRYB153K50
	C 140	CERAMIC CAPACITOR	CKSQYB224K16
	C 1401	ELECT. CAPACITOR	CEAT4R7M50
	C 1404	ELECT. CAPACITOR	CEAT101M10

Mark	No.	Description	Part No.
	C 141	CHIP CERAMIC C.	CKSRYB822K50
	C 142	CHIP CERAMIC C.	CKSRYB153K50
	C 143	CERAMIC CAPACITOR	CKSQYB224K16
	C 144	ELECT. CAPACITOR	CEAT3R3M50
	C 145	ELECT. CAPACITOR	CEAT3R3M50
	C 146	ELECT. CAPACITOR	CEAT100M50
	C 147	ELECT. CAPACITOR	CEAT3R3M50
	C 148	ELECT. CAPACITOR	CEAT3R3M50
	C 149	ELECT. CAPACITOR	CEAT3R3M50
	C 150	ELECT. CAPACITOR	CEAT3R3M50
	C 151	ELECT. CAPACITOR	CEAT3R3M50
	C 152	CERAMIC CAPACITOR	CCSRCH101J50
	C 153	CERAMIC CAPACITOR	CCSRCH101J50
	C 154	CERAMIC CAPACITOR	CCSRCH101J50
	C 155	ELECT. CAPACITOR	CEAT471M10
	C 156	ELECT. CAPACITOR	CEAT471M10
	C 157	ELECT. CAPACITOR	CEAT101M16
	C 158	CHIP CERAMIC C.	CKSRYB103K50
	C 159	CERAMIC CAPACITOR	CCSRCH101J50
	C 160	CERAMIC CAPACITOR	CCSRCH101J50
	C 1601	CHIP CERAMIC C.	CCSRCH221J50
	C 1602	CHIP CERAMIC C.	CCSRCH221J50
	C 1603	CHIP CERAMIC C.	CCSRCH471J50
	C 1604	CHIP CERAMIC C.	CCSRCH471J50
	C 1605	ELECT. CAPACITOR	CEAT4R7M50
	C 1606	ELECT. CAPACITOR	CEAT4R7M50
	C 1607	CHIP CERAMIC C.	CKSRYB103K50
	C 1608	CHIP CERAMIC C.	CKSRYB103K50
	C 1609	CHIP CERAMIC C.	CCSRCH221J50
	C 161	ELECT. CAPACITOR	CEAT470M25
	C 1610	CHIP CERAMIC C.	CCSRCH221J50
	C 1611	CHIP CERAMIC C.	CCSRCH471J50
	C 1612	CHIP CERAMIC C.	CCSRCH471J50
	C 1613	ELECT. CAPACITOR	CEAT4R7M50
	C 1614	ELECT. CAPACITOR	CEAT4R7M50
	C 1615	CHIP CERAMIC C.	CKSRYB222K50
	C 1616	CHIP CERAMIC C.	CKSRYB222K50
	C 1617	CHIP CERAMIC C.	CKSRYB222K50
	C 1618	CHIP CERAMIC C.	CKSRYB222K50
	C 1619	CHIP CERAMIC C.	CKSRYB103K50
	C 162	ELECT. CAPACITOR	CEAT470M25
	C 1620	CHIP CERAMIC C.	CKSRYB103K50
	C 1621	CHIP CERAMIC C.	CKSRYB122K50
	C 1623	CHIP CERAMIC C.	CCSRCH271J50
	C 1625	ELECT. CAPACITOR	CEAT4R7M50
	C 1626	ELECT. CAPACITOR	CEAT4R7M50
	C 1627	CHIP CERAMIC C.	CKSRYB222K50
	C 1628	CERAMIC CAPACITOR	CKSRYF104Z50
	C 1629	CHIP CERAMIC C.	CKSRYB103K50
	C 163	CERAMIC CAPACITOR	CCSRCH101J50
	C 1630	CHIP CERAMIC C.	CKSRYB103K50
	C 1631	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1632	CERAMIC CAPACITOR	CKSRYF104Z25
	C 1636	CHIP CERAMIC C.	CKSRYB103K50
	C 1637	CHIP CERAMIC C.	CKSRYB103K50
	C 1639	CHIP CERAMIC C.	CCSRCH471J50
	C 164	CERAMIC CAPACITOR	CCSRCH101J50
	C 1640	CERAMIC CAPACITOR	CCSRCH101J50
	C 1641	CERAMIC CAPACITOR	CCSRCH101J50
	C 1642	CHIP CERAMIC C.	CKSRYB103K50
	C 165	ELECT. CAPACITOR	CEAT470M25
	C 166	ELECT. CAPACITOR	CEAT470M25
	C 167	CHIP CERAMIC C.	CCSRCH221J50
	C 168	CERAMIC CAPACITOR	CKSRYB152K50
	C 169	ELECT. CAPACITOR	CEAT470M25
	C 170	ELECT. CAPACITOR	CEAT4R7M50
	C 1701	CERAMIC CAPACITOR	CKSRYB682K50
	C 1702	CERAMIC CAPACITOR	CKSRYB682K50
	C 1703	CHIP CERAMIC C.	CKSRYB222K50
	C 1704	CHIP CERAMIC C.	CKSRYB222K50
	C 1705	CERAMIC CAPACITOR	CKSRYB104K16
	C 1706	CERAMIC CAPACITOR	CKSRYB104K16
	C 1707	CHIP CERAMIC C.	CCSRCH151J50
	C 1708	CHIP CERAMIC C.	CCSRCH151J50
	C 1709	CHIP CERAMIC C.	CKSRYB103K50
	C 171	CHIP CERAMIC C.	CKSRYB103K50
	C 1710	CHIP CERAMIC C.	CKSRYB103K50
	C 1711	CHIP CERAMIC C.	CKSRYB103K50
	C 1712	CHIP CERAMIC C.	CKSRYB103K50
	C 1713	ELECT. CAPACITOR	CEAT220M25
	C 1714	ELECT. CAPACITOR	CEAT220M25
	C 1715	CERAMIC CAPACITOR	CKSRYB682K50
	C 1716	CERAMIC CAPACITOR	CKSRYB682K50
	C 1717	CHIP CERAMIC C.	CKSRYB222K50
	C 1718	CHIP CERAMIC C.	CKSRYB222K50
	C 1719	CERAMIC CAPACITOR	CKSRYB104K16
	C 172	CHIP CERAMIC C.	CKSRYB103K50
	C 1720	CERAMIC CAPACITOR	CKSRYB104K16
	C 1721	CHIP CERAMIC C.	CCSRCH151J50
	C 1722	CHIP CERAMIC C.	CCSRCH151J50
	C 1723	CHIP CERAMIC C.	CKSRYB103K50
	C 1724	CHIP CERAMIC C.	CKSRYB103K50
	C 1725	CHIP CERAMIC C.	CKSRYB103K50
	C 1726	CHIP CERAMIC C.	CKSRYB103K50
	C 1727	ELECT. CAPACITOR	CEAT220M25
	C 1728	ELECT. CAPACITOR	CEAT220M25
	C 1729	CERAMIC CAPACITOR	CKSRYB682K50
	C 173	CHIP CERAMIC C.	CCSRCH151J50
	C 1731	CHIP CERAMIC C.	CKSRYB222K50
	C 1732	CERAMIC CAPACITOR	CKSRYB682K50
	C 1733	CERAMIC CAPACITOR	CKSRYB104K16
	C 1734	CERAMIC CAPACITOR	CKSRYB104K16
	C 1735	CHIP CERAMIC C.	CCSRCH151J50
	C 1736	CERAMIC CAPACITOR	CCSRCH102J50
	C 1737	CHIP CERAMIC C.	CKSRYB103K50
	C 1738	CHIP CERAMIC C.	CKSRYB103K50
	C 1739	ELECT. CAPACITOR	CEAT220M25
	C 174	CHIP CERAMIC C.	CCSRCH151J50
	C 1740	ELECT. CAPACITOR	CEAT220M25
	C 175	ELECT. CAPACITOR	CEAT101M16
	C 176	ELECT. CAPACITOR	CEAT101M16
	C 177	CHIP CERAMIC C.	CKSRYB103K50
	C 178	CHIP CERAMIC C.	CKSRYB103K50
	C 179	CHIP CERAMIC C.	CKSRYB103K50
	C 180	CHIP CERAMIC C.	CKSRYB103K50
	C 183	CHIP CERAMIC C.	CKSRYB103K50
	C 184	CERAMIC CAPACITOR	CKSRYF473Z50
	C 185	CERAMIC CAPACITOR	CKSRYF473Z50
	C 186	CHIP CERAMIC C.	CKSRYB103K50
	C 187	CHIP CERAMIC C.	CKSRYB103K50
	C 188	CHIP CERAMIC C.	CKSRYB103K50
	C 189	CHIP CERAMIC C.	CKSRYB103K50
	C 190	CHIP CERAMIC C.	CKSRYB103K50
	C 191	CHIP CERAMIC C.	CKSRYB103K50

Mark	No.	Description	Part No.
	C 192	CHIP CERAMIC C.	CKSRYB103K50
	C 193	CHIP CERAMIC C.	CKSRYB103K50
	C 194	ELECT. CAPACITOR	CEAT4R7M50
	C 195	ELECT. CAPACITOR	CEAT4R7M50
	C 199	CHIP CERAMIC C.	CKSRYB103K50
	C 201	ELECT. CAPACITOR	CEAT4R7M50
	C 202	CERAMIC CAPACITOR	CKSRYF104Z16
	C 205	ELECT. CAPACITOR	CEAT3R3M50
	C 207	CERAMIC CAPACITOR	CCSRCH101J50
	C 208	CERAMIC CAPACITOR	CCSRCH101J50
	C 209	CERAMIC CAPACITOR	CKSRYF104Z25
	C 211	CERAMIC CAPACITOR	CCSRCH220J50
	C 212	CERAMIC CAPACITOR	CCSRCH220J50

RESISTORS

Mark	No.	Description	Part No.
⚠	R174	METAL OXIDE RESISTOR	RS1LMF101J
⚠	R175	METAL OXIDE RESISTOR	RS1LMF101J
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN101	19P SOCKET	KP200TA19L
	CN102	33P CONNECTOR	52045-3345
	CN103	19P CONNECTOR	52045-1945
	CN104	CONNECTOR	52045-1445
	CN105	CONNECTOR	52045-1345
	CN106	CONNECTOR	52045-1745
	CN1501	CONNECTOR 6P	52045-0645
	JA103	PIN JACK(4P)	AKB7048
	JA104	PIN JACK(4P)	AKB7048
	JA105	PIN JACK(6P)	AKB7050
	X1101	CRYSTAL RESONATOR (18.432MHz)	RSS1052
	X1201	CRYSTAL RESONATOR (12.288MHz)	VSS1140

B AMP&PRIMARY ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC51	REGULATOR IC	NJM78M56FA
⚠	IC52	PROTECTOR(315mA)	AEK7003
⚠	IC601	AUDIO IC	PAC010A
⚠	IC602	AUDIO IC	PAC011A
⚠	IC603	PROTECTOR(1A)	AEK7009
	Q 51	TRANSISTOR	KRC101M
	Q 601	TRANSISTOR	2SC2878
	Q 602	TRANSISTOR	2SC2878
	Q 603	TRANSISTOR	2SC2878
	Q 604	TRANSISTOR	2SC2878
	Q 605	TRANSISTOR	2SC2240
	Q 606	TRANSISTOR	2SC2240
	Q 631	TRANSISTOR	2SC2878
	Q 632	TRANSISTOR	2SC2878
	Q 633	TRANSISTOR	2SC2240
	Q 651	TRANSISTOR	2SC2878
	Q 652	TRANSISTOR	2SC2878
	Q 653	TRANSISTOR	2SC2878
	Q 654	TRANSISTOR	2SC2878
	Q 655	TRANSISTOR	2SC2240
	Q 656	TRANSISTOR	2SC2240
	Q 691	TRANSISTOR	2SC1740S
	Q 692	TRANSISTOR	2SC1740S
	Q 701	TRANSISTOR	2SD1859X
	Q 702	TRANSISTOR	2SB1238X
	Q 703	TRANSISTOR	2SA1145
	Q 704	TRANSISTOR	2SC1845
⚠	D 51	DIODE	S5688G
⚠	D 52	DIODE	S5688G
⚠	D 53	DIODE	S5688G
⚠	D 54	DIODE	S5688G
⚠	D 55	DIODE	S5688G
	D 56	DIODE	1SS133
	D 57	DIODE	1SS133
	D 58	ZINER DIODE	MTZJ5.1A
	D 601	DIODE	1SS133
	D 602	DIODE	1SS133
	D 603	DIODE	1SS133
	D 604	DIODE	1SS133
	D 605	ZENER DIODE	MTZJ8.2A
	D 606	ZENER DIODE	MTZJ8.2A
	D 631	DIODE	1SS133
	D 632	DIODE	1SS133
	D 633	ZENER DIODE	MTZJ8.2A
	D 634	ZENER DIODE	MTZJ8.2A
	D 651	DIODE	1SS133
	D 652	DIODE	1SS133
	D 653	DIODE	1SS133
	D 654	DIODE	1SS133
⚠	D 701	DIODE	D5SBA20(B)
⚠	D 702	DIODE	D5SBA20(B)
	D 711	ZENER DIODE	MTZJ22D
	D 712	ZENER DIODE	MTZJ5.1B
	D 751	DIODE	1SS133
	D 752	DIODE	1SS133
	D 753	DIODE	1SS133
	D 754	DIODE	1SS133
	D 755	DIODE	1SS133
	D 756	DIODE	1SS133

COILS AND FILTERS

Mark	No.	Description	Part No.
⚠	L 52	LINE FILTER	XTF3001
	L 751	COIL	ATH1004
	L 752	COIL	ATH1004
	L 753	COIL	ATH1004
	L 761	COIL	ATH1004
	L 762	COIL	ATH1004

SWITCHES AND RELAYS

Mark	No.	Description	Part No.
⚠	RY51	JOE LOWPOWER RELAY	XSR3003
	RY751	RELAY	XSR3002
	RY752	RELAY	XSR3002
	RY753	RELAY	XSR3002

CAPACITORS

Mark	No.	Description	Part No.
⚠	C51	CKA (10000pF/AC250V)	ACG7020
⚠	C52	CKA (10000pF/AC250V)	ACG7020
	C53	ELECT. CAPACITOR	CEAT102M16
	C54	ELECT. CAPACITOR	CEAT470M25
	C55	CERAMIC CAPACITOR	CGCYX103M25
	C56	CERAMIC CAPACITOR	CGCYX103M25
	C57	CERAMIC CAPACITOR	CGCYX103M25
	C601	CERAMIC CAPACITOR	CKCYB102K50
	C602	CERAMIC CAPACITOR	CKCYB102K50
	C603	CERAMIC CAPACITOR	CKCYB331K50
	C604	CERAMIC CAPACITOR	CKCYB331K50
	C605	ELECT. CAPACITOR	CEAT4R7M50

Mark	No.	Description	Part No.
	C606	ELECT. CAPACITOR	CEAT4R7M50
	C607	CERAMIC CAPACITOR	CCCSL120J50
	C608	CERAMIC CAPACITOR	CCCSL120J50
	C609	CERAMIC CAPACITOR	CCCSL120J50
	C610	CERAMIC CAPACITOR	CCCSL120J50
	C611	ELECT. CAPACITOR	CEAT101M16
	C612	ELECT. CAPACITOR	CEAT101M16
	C613	CERAMIC CAPACITOR	CCCSL221J50
	C614	CERAMIC CAPACITOR	CCCSL221J50
	C615	ELECT. CAPACITOR	CEANP2R2M50
	C616	ELECT. CAPACITOR	CEANP2R2M50
	C631	CERAMIC CAPACITOR	CKCYB102K50
	C632	CERAMIC CAPACITOR	CKCYB331K50
	C633	ELECT. CAPACITOR	CEAT4R7M50
	C634	CERAMIC CAPACITOR	CCCSL12J50
	C635	CERAMIC CAPACITOR	CCCSL120J50
	C636	ELECT. CAPACITOR	CEAT101M16
	C637	CERAMIC CAPACITOR	CCCSL221J50
	C638	ELECT. CAPACITOR	CEANP2R2M50
	C651	CERAMIC CAPACITOR	CKCYB102K50
	C652	CERAMIC CAPACITOR	CKCYB102K50
	C653	CERAMIC CAPACITOR	CKCYB331K50
	C654	CERAMIC CAPACITOR	CKCYB331K50
	C655	ELECT. CAPACITOR	CEAT4R7M50
	C656	ELECT. CAPACITOR	CEAT4R7M50
	C657	CERAMIC CAPACITOR	CCCSL120J50
	C658	CERAMIC CAPACITOR	CCCSL120J50
	C659	CERAMIC CAPACITOR	CCCSL120J50
	C660	CERAMIC CAPACITOR	CCCSL120J50
	C661	ELECT. CAPACITOR	CEAT101M16
	C662	ELECT. CAPACITOR	CEAT101M16
	C663	CERAMIC CAPACITOR	CCCSL221J50
	C664	CERAMIC CAPACITOR	CCCSL221J50
	C665	ELECT. CAPACITOR	CEANP2R2M50
	C666	ELECT. CAPACITOR	CEANP2R2M50
	C691	CERAMIC CAPACITOR	CKCYB102K50
	C692	ELECT. CAPACITOR	CEAT221M10
	C701	ELECT.CAPACITOR (4700µF/63V)	ACH7134
	C702	ELECT.CAPACITOR (4700µF/63V)	ACH7134
	C703	ELECT.CAPACITOR (3300µF/42V)	ACH7135
	C704	ELECT.CAPACITOR (3300µF/42V)	ACH7135
	C705	ELECT. CAPACITOR	CEAT100M2A
	C706	ELECT. CAPACITOR	CEAT100M2A
	C707	CKA (0.01µF/AC250V)	ACG1005
	C708	CKA (0.01µF/AC250V)	ACG1005
	C711	ELECT. CAPACITOR	CEAT101M35
	C712	ELECT. CAPACITOR	CEAT101M10
	C751	AUDIO FILM CAPACITOR	CFTYA224J50
	C752	AUDIO FILM CAPACITOR	CFTYA224J50
	C753	AUDIO FILM CAPACITOR	CFTYA224J50
	C754	AUDIO FILM CAPACITOR	CFTYA224J50
	C755	AUDIO FILM CAPACITOR	CFTYA224J50
	C756	AUDIO FILM CAPACITOR	CFTYA224J50
	C757	FILM CAPACITOR	CFTYA472J50
	C758	FILM CAPACITOR	CFTYA472J50
	C759	FILM CAPACITOR	CFTYA472J50
	C761	AUDIO FILM CAPACITOR	CFTYA224J50
	C762	AUDIO FILM CAPACITOR	CFTYA224J50
	C763	AUDIO FILM CAPACITOR	CFTYA224J50
	C764	AUDIO FILM CAPACITOR	CFTYA224J50
	C765	FILM CAPACITOR	CQMB472J50
	C766	FILM CAPACITOR	CQMB472J50

RESISTORS

Mark	No.	Description	Part No.
⚠	R52	CARBON FILM RESISTOR	RD1/2PM270J
⚠	R615	RESISTOR (0.22Ω/5W)	XCN3001
⚠	R616	RESISTOR (0.22Ω/5W)	XCN3001
⚠	R638	RESISTOR (0.22Ω/5W)	XCN3001
⚠	R665	RESISTOR (0.22Ω/5W)	XCN3001
⚠	R666	RESISTOR (0.22Ω/5W)	XCN3001
⚠	R711	METAL OXIDE RESISTOR	RS2LMF272J
⚠	R751	CARBON FILM RESISTOR	RD1/4PUF101J
⚠	R752	CARBON FILM RESISTOR	RD1/4PUF101J
⚠	R753	METAL OXIDE RESISTOR	RS1LMF4R7J
⚠	R754	METAL OXIDE RESISTOR	RS1LMF4R7J
⚠	R755	CARBON FILM RESISTOR	RD1/4PUF101J
⚠	R756	METAL OXIDE RESISTOR	RS1LMF4R7J
⚠	R761	CARBON FILM RESISTOR	RD1/4PUF101J
⚠	R762	CARBON FILM RESISTOR	RD1/4PUF101J
⚠	R763	METAL OXIDE RESISTOR	RS1LMF4R7J
⚠	R764	METAL OXIDE RESISTOR	RS1LMF4R7J
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	52	3P CABLE HOLDER	51048-0300
	701	7P CABLE HOLDER	51048-0700
	CN51	AC CODE SOCKET	RKP1751
	CN53	22P CONNECTOR	52045-2245
	CN601	16P PLUG	KM200TA16
	CN751	SPEAKER TERMINAL 6-P	XKE3007
	CN752	SPEAKER TERMINAL 4-P	XKE3006
	H51	FUSE CLIP	AKR7001
	H52	FUSE CLIP	AKR7001
⚠	T51	STANDBY TRANSFORMER	ATT7037
	KN51	EARTH METAL FITTING	VNF1084
	KN601	EARTH METAL FITTING	VNF1084
	J44	3P JUMPER WIRE	D20PYY0325E

C TRANS2 ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
⚠	IC851	PROTECTOR (1.6A)	AEK7012
⚠	IC852	PROTECTOR (1.6A)	AEK7012
⚠	IC853	PROTECTOR (1.6A)	AEK7012

OTHERS

Mark	No.	Description	Part No.
	851	7P CABLE HOLDER	51048-0700

D TRANS3 ASSY

TRANS3 ASSY has no service part.

E REGULATOR ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC801	REGULATOR IC	NJM78M12FA
	IC802	REGULATOR IC	NJM79M12FA
	IC803	REGULATOR IC	NJM78M05FA
	IC804	REGULATOR IC	NJM78M05FA
	Q801	TRANSISTOR	KRA103M

Mark	No.	Description	Part No.
	Q802	TRANSISTOR	KRC101M
	Q803	TRANSISTOR	KRA103M
	Q804	TRANSISTOR	KRC101M
⚠	D801	DIODE	S5688G
⚠	D802	DIODE	S5688G
⚠	D803	DIODE	S5688G
⚠	D804	DIODE	S5688G
⚠	D805	DIODE	S5688G
⚠	D806	DIODE	S5688G
⚠	D807	DIODE	S5688G
⚠	D808	DIODE	S5688G

CAPACITORS

	C801	ELECT. CAPACITOR	CEAT222M25
	C802	ELECT. CAPACITOR	CEAT222M25
	C803	CERAMIC CAPACITOR	CGCYX103M25
	C804	CERAMIC CAPACITOR	CGCYX103M25
	C805	ELECT. CAPACITOR	CEAT101M16
	C806	ELECT. CAPACITOR	CEAT101M16
	C807	CERAMIC CAPACITOR	CGCYX103M25
	C808	ELECT. CAPACITOR	CEAT101M10
	C809	ELECT. CAPACITOR	CEAT222M16
	C810	CERAMIC CAPACITOR	CGCYX103M25
	C811	ELECT. CAPACITOR	CEAT101M10

OTHERS

CN801	22P CONNECTOR	52045-2245
CN802	19P PLUG	KM200TA19
CN803	5P PLUG	KM200TA5

F AMP INPUT ASSY

OTHERS

CN290	17P CONNECTOR	52044-1745
CN291	16P SOCKET	KP200TA16L

G TRANS1 ASSY

TRANS1 ASSY has no service part.

H VIDEO&6CH IN ASSY

SEMICONDUCTORS

IC301	VIDEO SW IC	NJM2296M
IC302	IC	NJM4558MD
IC303	IC	NJM4558MD
Q301	TRANSISTOR	2SC3377
Q302	TRANSISTOR	2SA1515
Q303	TRANSISTOR	2SC2878
D301	DIODE	1SS355
D302	DIODE	1SS355
D303	CHIP ZENER DIODE	UDZS6.2B
D304	CHIP ZENER DIODE	UDZS6.2B
D305	DIODE	1SS355
D306	DIODE	1SS355

CAPACITORS

C302	CERAMIC CAPACITOR	CKSRYB103K50
C304	CERAMIC CAPACITOR	CKSRYB221K50
C305	CERAMIC CAPACITOR	CKSRYB221K50
C306	CERAMIC CAPACITOR	CKSRYB221K50
C307	ELECT. CAPACITOR	CEAT470M25
C308	ELECT. CAPACITOR	CEAT470M25
C309	ELECT. CAPACITOR	CEAT470M25
C310	ELECT. CAPACITOR	CEAT470M25
C311	CERAMIC CAPACITOR	CKSRYB473K50
C312	ELECT. CAPACITOR	CEAT470M25
C313	CERAMIC CAPACITOR	CKSRYB473K50
C314	ELECT. CAPACITOR	CEAT470M25
C315	CERAMIC CAPACITOR	CKSRYB103K50
C316	CERAMIC CAPACITOR	CKSRYB103K50
C317	CERAMIC CAPACITOR	CKSRYB221K50
C318	CERAMIC CAPACITOR	CKSRYB221K50
C319	CHIP CAPACITOR	CCSRCH101J50
C320	CHIP CAPACITOR	CCSRCH101J50
C321	ELECT. CAPACITOR	CEAT4R7M50
C322	CERAMIC CAPACITOR	CKSRYB103K50
C323	CERAMIC CAPACITOR	CKSRYB103K50
C324	ELECT. CAPACITOR	CEAT4R7M50
C325	CERAMIC CAPACITOR	CKSRYB221K50
C326	CERAMIC CAPACITOR	CKSRYB221K50
C327	CHIP CAPACITOR	CCSRCH101J50
C328	CHIP CAPACITOR	CCSRCH101J50
C329	CERAMIC CAPACITOR	CKSRYB103K50
C330	CERAMIC CAPACITOR	CKSRYB103K50
C331	ELECT. CAPACITOR	CEAT4R7M50
C332	ELECT. CAPACITOR	CEAT4R7M50
C333	CERAMIC CAPACITOR	CKSRYB331K50
C338	ELECT. CAPACITOR	CEAT470M25
C339	CERAMIC CAPACITOR	CKSRYB104K25
C340	CERAMIC CAPACITOR	CKSRYB104K25
C342	CHIP CAPACITOR	CCSRCH101J50
C343	CHIP CAPACITOR	CCSRCH101J50
C344	CHIP CAPACITOR	CCSRCH101J50
C345	CHIP CAPACITOR	CCSRCH101J50
C346	CERAMIC CAPACITOR	CKSRYB104K16
C347	CHIP CAPACITOR	CCSRCH470J50

RESISTORS

⚠	R 313	METAL OXIDE RESISTOR	RS3LMF560J
⚠	R 316	METAL OXIDE RESISTOR	RS3LMF560J
	Other Resistors		RS1/16S□□□J

OTHERS

CN302	5P SOCKET	KP200TA5L
CN303	14P CONNECTOR	52044-1445
CN305	PIN JACK(6P)	XKB3009
CN307	PIN JACK(4P)	XKB3013
JA301	JACK	RKN1004

I H.P. ASSY

SEMICONDUCTORS

Q1551	TRANSISTOR	2SC3326
Q1552	TRANSISTOR	2SC3326

CAPACITORS

C1551	CERAMIC CAPACITOR	CKSRYB104K16
C1552	CERAMIC CAPACITOR	CKSRYB103K50
C1553	CHIP CERAMIC C.	CCSRCH471J50
C1555	CHIP CAPACITOR	CKSRYB223K50
C1556	CHIP CAPACITOR	CKSRYB223K50

Mark	No.	Description	Part No.
RESISTORS			
⚠	R1551	METAL OXIDE RESISTOR	RS1/2LMF121J
⚠	R1552	METAL OXIDE RESISTOR	RS1/2LMF121J
	R1553	CHIP RESISTOR	RS1/16S472J
	R1554	CHIP RESISTOR	RS1/16S472J
OTHERS			
	1551	CABLE HOLDER(4P)	51063-0405
	JA1551	JACK	RKN1002
	KN1551	EARTH METAL FITTING	VNF1084

J DIGITAL IN ASSY

SEMICONDUCTORS			
	IC1901	LOGIC IC	TC74ACT151F
	IC1902	LOGIC IC	TC74HCU04AF
COILS AND FILTERS			
	F1901	CHIP BEAD	DTF1067
	F1902	CHIP BEAD	DTF1067
	F1903	CHIP BEAD	DTF1067
	F1904	CHIP BEAD	DTF1067
CAPACITORS			
	C1901	CERAMIC CAPACITOR	CKSRYB104K25
	C1902	CERAMIC CAPACITOR	CKSRYB104K25
	C1903	CERAMIC CAPACITOR	CKSRYB104K25
	C1904	ELECT. CAPACITOR	CEAT101M10
	C1905	ELECT. CAPACITOR	CEAT101M10
	C1906	CERAMIC CAPACITOR	CKSRYB103K50
	C1907	CHIP CERAMIC C.	CCSRCH271J50
	C1908	CERAMIC CAPACITOR	CKSRYB104K25
	C1909	CERAMIC CAPACITOR	CKSRYB104K25
	C1910	CERAMIC CAPACITOR	CKSRYB103K50
	C1911	CERAMIC CAPACITOR	CCSRCH560J50
	C1912	ELECT. CAPACITOR	CEAT101M10
	C1913	CERAMIC CAPACITOR	CKSRYB103K50
	C1914	CHIP CERAMIC C.	CCSRCH271J50
	C1915	CHIP CAPACITOR	CKSRYB102K50
	C1916	CHIP CERAMIC C.	CCSRCH471J50
	C1917	CHIP CERAMIC C.	CCSRCH220J50
	C1918	CHIP CERAMIC C.	CCSRCH221J50
	C1919	CERAMIC CAPACITOR	CKSRYB103K50
	C1920	CERAMIC CAPACITOR	CKSRYB103K50
	C1921	CERAMIC CAPACITOR	CKSRYB104K25
	C1922	CERAMIC CAPACITOR	CKSRYB104K25
RESISTORS			
	All Resistors		RS1/16S□□□J
OTHERS			
	CN1901	CONNECTOR 6P	52045-0645
	JA1901	JACK (1P)	VKB1077
	JA1902	OPTICAL RECEIV MOD.	GP1F32R
	JA1903	OPTICAL RECEIV MOD.	GP1F32R
	JA1904	OPTICAL LINK OUT	GP1F32T

K FRONT ASSY

SEMICONDUCTORS			
	IC401	CONTROL MCU	PDG260A
	IC481	RDS RECORDER	BU1923F
	Q 401	CHIP DIGITAL TRANS.	DTA124EK
	Q 402	CHIP DIGITAL TRANS.	DTA124EK
	Q 403	DIGITAL TRANSISTOR	DTC143EK
	Q 404	DIGITAL TRANSISTOR	DTC143EK
	Q 405	CHIP TANSISTOR	2SA1037K
	Q 441	DIGITAL TRANSISTOR	DTC143EK
	Q 442	CHIP DIGITAL TRANS.	DTA124EK
	Q 471	CHIP DIGITAL TRANS.	DTA124EK
	Q 481	CHIP TANSISTOR	2SA1037K
	Q 482	DIGITAL TRANSISTOR	DTC143EK
	Q 483	CHIP MUTING TRANS.	2SC3326
	D 401	CHIP DIODE ARRAY	DAP202K
	D 403	DIODE	DAN217
	D 404	CHIP DIODE ARRAY	DAP202K
	D 405	DIODE	DAN217
	D 407	DIODE	1SS355
	D 408	DIODE	1SS355
	D 442	DIODE	1SS355
COILS AND FILTERS			
	L401	RADIAL INDUCTOR	LFEA2R2J
	L481	RADIAL INDUCTOR	LFEA2R2J
SWITCHES AND RELAYS			
	S 451	SWITCH	ASG1051
	S 452	SWITCH	ASG1051
	S 453	SWITCH	ASG1051
	S 454	SWITCH	ASG1051
	S 455	SWITCH	ASG1051
	S 456	SWITCH	ASG1051
	S 457	SWITCH	ASG1051
	S 458	SWITCH	ASG1051
	S 459	SWITCH	ASG1051
	S 460	SWITCH	ASG1051
	S 461	SWITCH	ASG1051
	S 462	SWITCH	ASG1051
	S 463	SWITCH	ASG1051
	S 464	SWITCH	ASG1051
	S 465	SWITCH	ASG1051
	S 466	SWITCH	ASG1051
	S 467	SWITCH	ASG1051
	S 468	SWITCH	ASG1051
	S 476	SWITCH	ASG1051
CAPACITORS			
	C401	CERAMIC CAPACITOR	CKSRYB103K50
	C402	ELECT. CAPACITOR	CEAT221M6R3
	C403	CERAMIC CAPACITOR	CKSRYB103K50
	C404	EDL CAPACITOR (0.047F/5.5V)	ACH7132
	C405	ELECT. CAPACITOR	CEAT221M6R3
	C406	CERAMIC CAPACITOR	CKSRYB473K16
	C407	CERAMIC CAPACITOR	CKSRYB473K16
	C408	CERAMIC CAPACITOR	CKSRYB104K16
	C409	ELECT. CAPACITOR	CEAT2R2M50
	C410	ELECT. CAPACITOR	CEAT2R2M50
	C411	CERAMIC CAPACITOR	CKSRYB103K50
	C412	ELECT. CAPACITOR	CEAT470M50
	C416	CERAMIC CAPACITOR	CKSRYB104K16
	C418	CERAMIC CAPACITOR	CKSRYB104K16
	C419	CERAMIC CAPACITOR	CKSRYB103K50
	C420	ELECTROLYTIC CAPACIT (220µF/35V)	ACH7101

Mark	No.	Description	Part No.
	C441	CERAMIC CAPACITOR	CKSRYB103K50
	C442	ELECT. CAPACITOR	CEJA470M10
	C451	CHIP CAPACITOR	CKSRYB102K50
	C452	CHIP CAPACITOR	CKSRYB102K50
	C453	CHIP CAPACITOR	CKSRYB102K50
	C471	CERAMIC CAPACITOR	CKSRYB104K16
	C481	CHIP CAPACITOR	CKSRYB102K50
	C482	CHIP CAPACITOR	CKSRYB102K50
	C483	ELECT. CAPACITOR	CEAT101M10
	C484	ELECT. CAPACITOR	CEJQ2R2M50
	C485	CHIP CAPACITOR	CKSRYB472K50
	C486	ELECT. CAPACITOR	CEATR10M50
	C488	CHIP CERAMIC C.	CCSRCH561J50
	C489	CHIP CERAMIC C.	CCSRCH270J50
	C490	CHIP CERAMIC C.	CCSRCH270J50
	C491	CERAMIC CAPACITOR	CKSRYB104K16
	C492	CERAMIC CAPACITOR	CKSRYB104K16
	C493	CERAMIC CAPACITOR	CKSRYB104K16
	C494	CERAMIC CAPACITOR	CKSRYB104K16
	C495	CHIP CAPACITOR	CKSRYB102K50
	C531	CERAMIC CAPACITOR	CKSRYB103K50
	C532	CERAMIC CAPACITOR	CKSRYB223K25
RESISTORS			
	All Resistors		RS1/16S□□□J
OTHERS			
	401	REMOTE RECEIVER UNIT	GP1U28X
	403	CABLE HOLDER(4P)	51063-0405
	404	CABLE HOLDER(6P)	51063-0605
	471	CABLE HOLDER(4P)	51063-0405
	CN401	19P CONNECTOR	52044-1945
	CN402	33P CONNECTOR	52044-3345
	V401	FL TUBE	XAV3010
	X401	CERAMIC RESONATOR (7.2MHz)	ASS7018
	X481	CERAMIC RESONATOR (4.332MHz)	ASS7004

L R.ENCODER ASSY

SWITCHES AND RELAYS

	S 511	SWITCH	ASG1051
	S 512	ROTARY ENCODER	XSX3006
	S 513	ROTARY ENCODER	XSX3005

OTHERS

	511	CABLE HOLDER(6P)	51063-0605

M POWER SW ASSY

SEMICONDUCTORS

	D501		BR3371XJ30A

SWITCHES AND RELAYS

	S 501	SWITCH	ASG1051

RESISTORS

	R 501	CHIP RESISTOR	RS1/16S271J

OTHERS

	501	CABLE HOLDER(4P)	51063-0405

Mark	No.	Description	Part No.

GA MECHA SW ASSY

SWITCHES AND RELAYS

	S 591	SWITCH	ASG7014

CAPACITORS

	C 591	CERAMIC CAPACITOR	CKSQYF103Z50
	C 592	CERAMIC CAPACITOR	CKSQYF103Z50

OTHERS

	CN591	CONNECTOR(3P)	52151-0310

6. ADJUSTMENT

There is no information to be shown in this chapter.

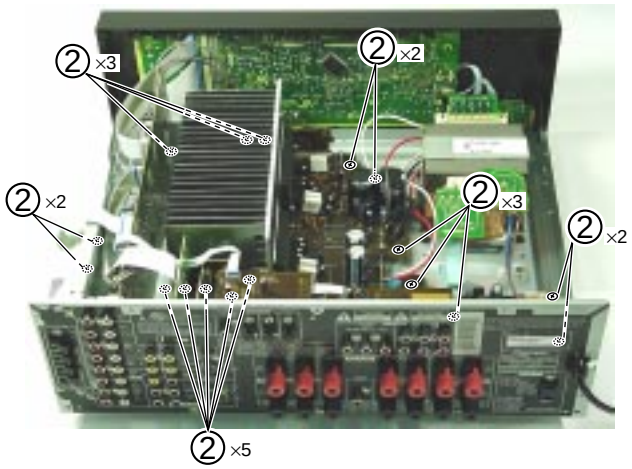
7. GENERAL INFORMATION

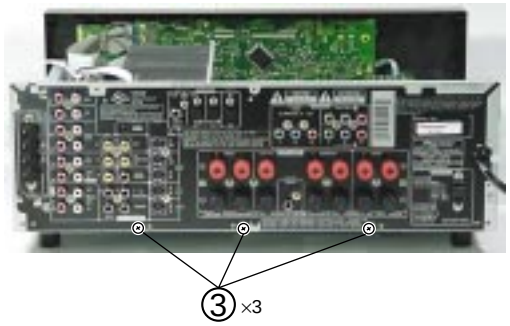
7.1 DISASSEMBLY and DIAGNOSIS

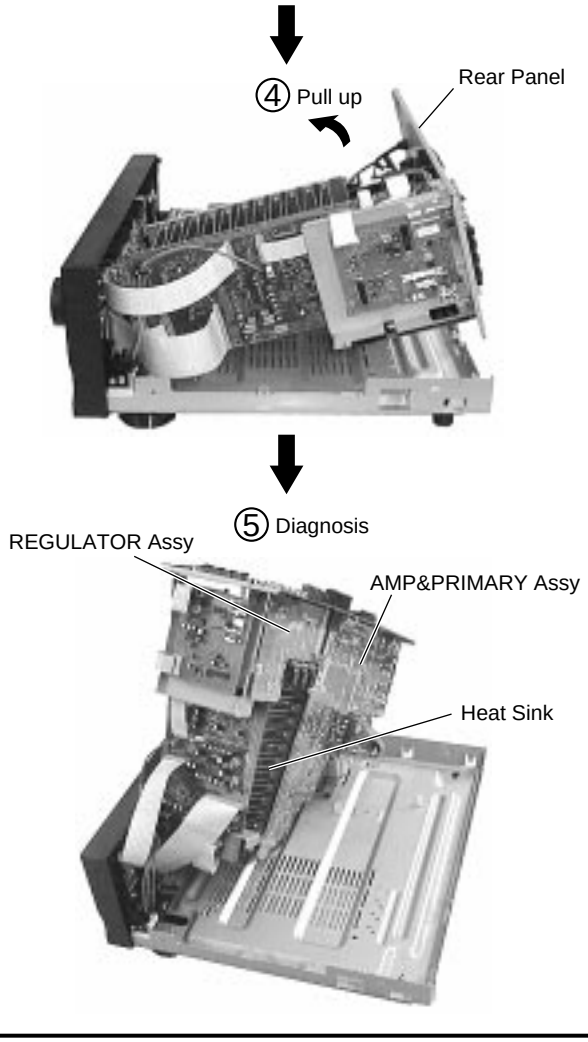
■ Diagnosis

Note : This photograph shows other models.
However, the work method is the same.

① Remove the Bonnet (seven screws).

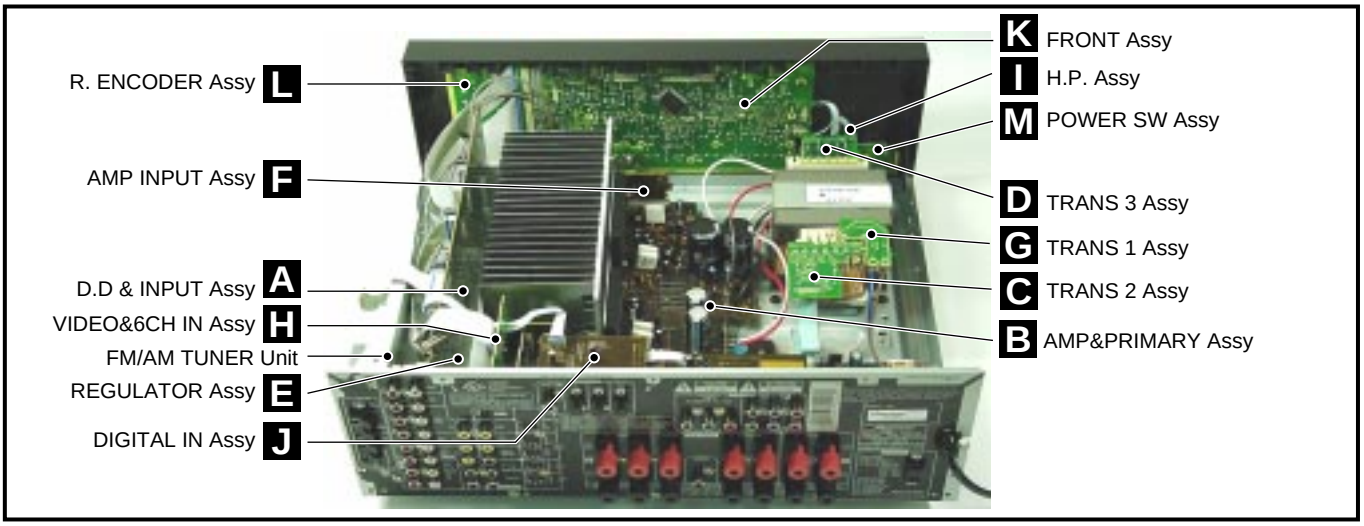






Note : If a speaker and the screw of a rear panel are removed, a set will stop moving.
Even if it removes TUNER Unit, it is uninfluential in operation of those other than TUNER Unit.

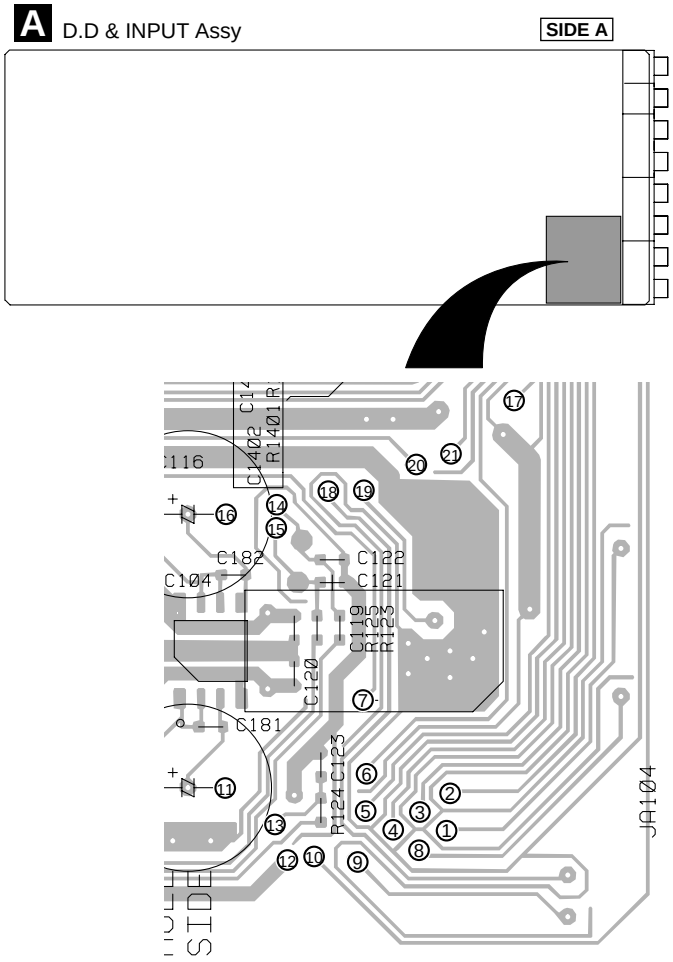
■ PCB Location



■ Diagnosis of D.D & INPUT Assy

① Remove FM/AM TUNER Unit and Shield R3 (five screws).
Please check SIDE A of the D.D & INPUT Assy on this status.

Please check IC101 mounted on side B from SIDE A.
The Pin number points on SIDE A of IC 101 are shown as follows.



7.2 PARTS

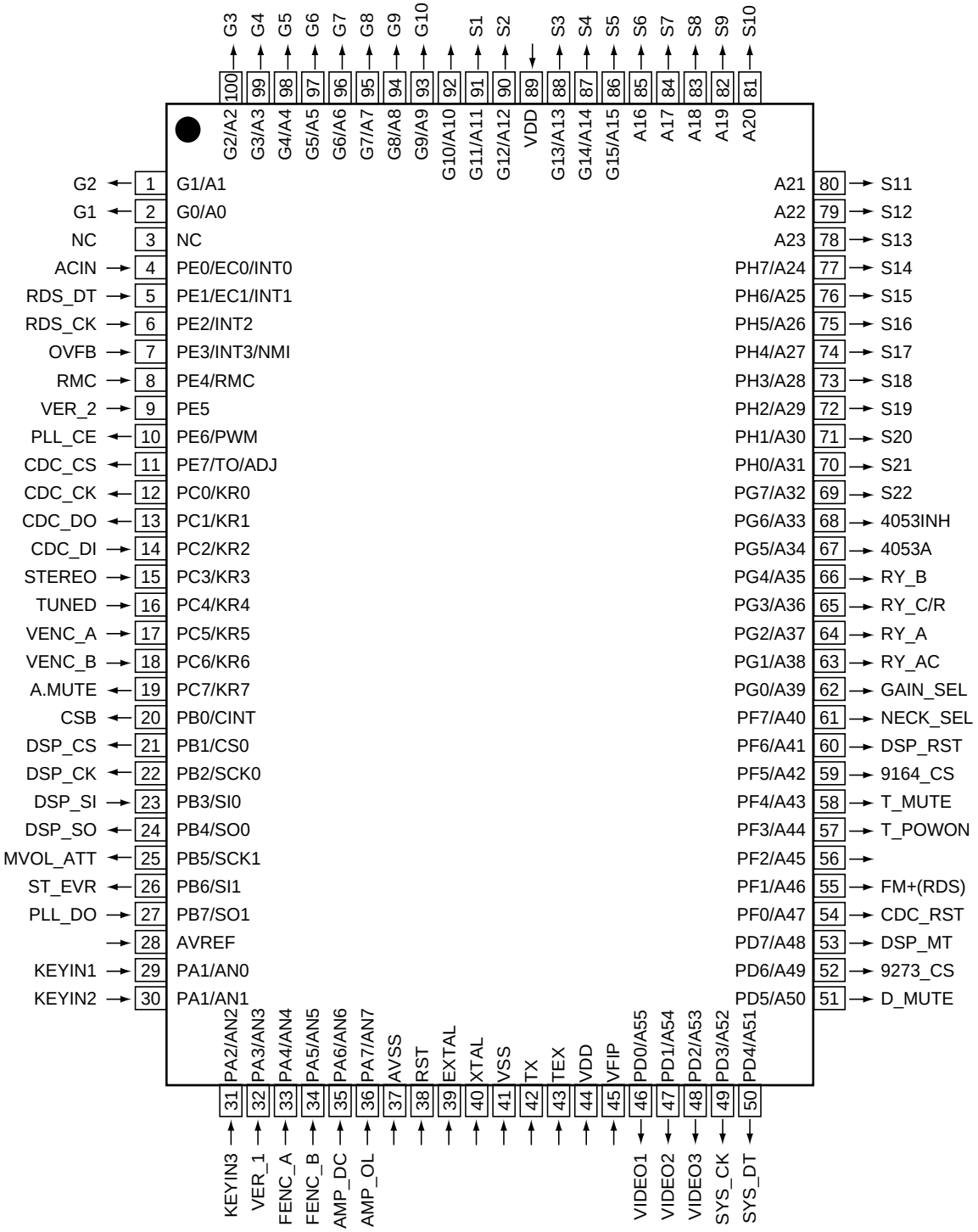
7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ PDG260A (FRONT ASSY : IC401)

• System Control MCU

● Pin Arrangement (Top View)



● **Pin Function**

No.	Pin Name	I/O	Pin Function	Active
1	G2	O	Grid output 2	H
2	G1	O	Grid output 1	H
3	NC	–	Connect to VDD	
4	ACIN	I	AC pulse input	
5	RDS_DT	I	Serial control DATA signal of RDS communication	
6	RDS_CK	I	Serial control CLOCK signal of RDS communication	
7	DIRLOCK	I	ERR/OVER input from CODEC	
8	RMC	I	Remote control signal input (no-carrier signal)	
9	VER_2	I	Destination switch 2	
10	PLL_CE	O	Chip select signal for communication with LC72131 (tuner)	H
11	CDC_CS	O	CODEC chip serect	
12	CDC_CK	O	CODEC, TC9164 control clock	
13	CDC_DO	O	CODEC, TC9164 control data output	
14	CDC_DI	I	Data input from CODEC	
15	STEREO	I	Stereo/Monoral signal judgment signal	
16	TUNED	I	TUNED information	
17	ENC_A	I	EVOL Rotary encoder signal input A	
18	ENC_B	I	EVOL Rotary encoder signal input B	
19	AMUTE	O	Audio mute	L
20	CSB	O	Chip select for control of YSS912 sub DSP	L
21	DSP_CS	O	Chip select for control of YSS912 main DSP	L
22	DSP_CK	O	Clock signal for communication with YSS912	H
23	DSP_SI	I	DATA input signal for communication with YSS912	
24	DSP_SO	O	DATA output signal for communication with YSS912	H
25	MVRATT	O	ATT control of master volume (L : Less than -15dB)	H
26	ST_EVR	O	Strobe signal for communication with electric volume IC	H
27	PLL_DO	I	Data input signal for communication with LC72131 (tuner)	
28	AVref	–	Connect to VDD	
29	KEYIN1	I	Key input A/D conversion port 1	
30	KEYIN2	I	Key input A/D conversion port 2	
31	KEYIN3	I	Key input A/D conversion port 3	
32	VER_1	I	Destination switch (A/D input)	
33	FENC_A	I	FUNC Rotary encoder signal input A	
34	FENC_B	I	FUNC Rotary encoder signal input B	
35	AMP_DC	I	DC abnormality detection of protection circuit (L : Abnormality detection)*	L
36	AMP_OL	I	Over-load detection of protection circuit (L : Abnormality detection)*	L
37	AVSS	–	Connect to VSS	
38	RST	–	Reset	
39	EXTAL	–	Connect to the oscillator (7.2MHz)	
40	XTAL	–		
41	VSS	–	Connect to VSS	
42	TX	–	Open	
43	TEX	–	Connect to VSS	
44	VDD	–	+5V	
45	VFDP	–	-30V	
46	VIDEO1	O	NJM2296D control	H
47	VIDEO2			
48	VIDEO3			
49	SYS_DT	O	Data signal for communication with M62446, TC9163, TC9164 and PLL	H
50	SYS_CK	O	Clock signal for communication with M62446, TC9163, TC9164 and PLL	H

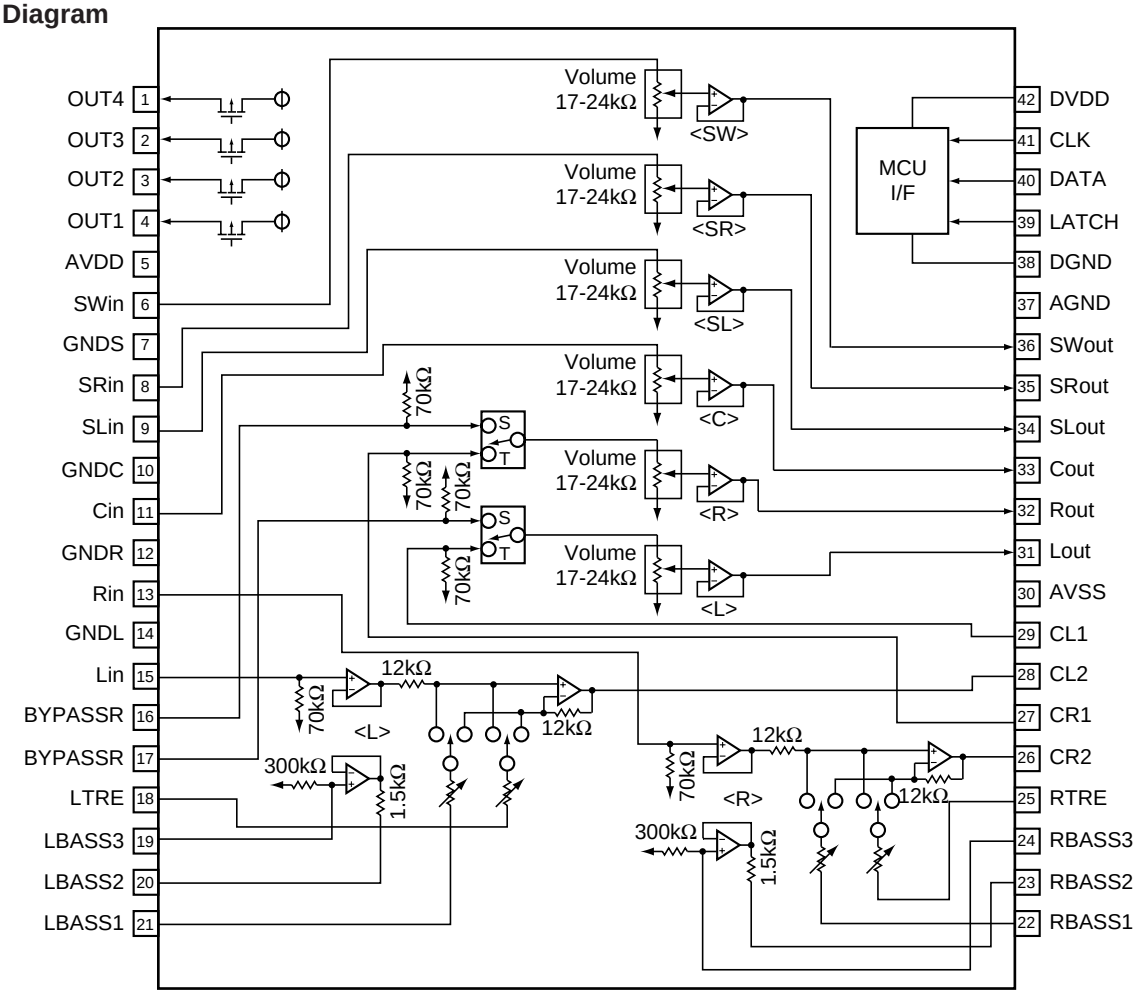
*: To FL "PowerOFF" When displayed, it is the case where DC is in the output of AMP.
To FL "OVER LOAD" When displayed, it is the case where the output of AMP is Over-load.

No.	Pin Name	I/O	Pin Function	Active
51	D_MUTE	O	Digital mute (Not used)	H
52	9273_CS	O	TC9273 Chip select	H
53	DSP_MT	O	DSP mute (ASSY mute)	H
54	CDC_RST	O	CODEC reset	H
55	FM+(RDS)	O	Tr switch ON/OFF for power supply of RDS decoder (L : AM, power OFF , H : Other)	H
56	Not used	–		
57	T_POWON	O	Tuner module ON/OFF (North America model only)	H
58	T_MUTE	O	Tuner mute	H
59	9164 CS	O	TC9163, TC9164 Chip select	
60	DSP_RST	O	YSS912 reset	
61	NECK_SEL	O	5.1ch, surround mode and A+B Stereo : H / Stereo : L	
62	GAIN_SEL	O	Gain select (5.1ch and Stereo of analog input : H)	H
63	RY_AC	O	AC relay ON/OFF	H
64	RY_A	O	Speaker A relay ON/OFF	H
65	RY_C/R	O	Rear/Center Speaker relay ON/OFF	H
66	RY_B	O	Speaker B relay ON/OFF	H
67	4053A	O	Component terminal control	H
68	4053INH	O	Component terminal control	H
69	S22	O	Segment output 22	H
70	S21		Segment output 21	
71	S20		Segment output 20	
72	S19		Segment output 19	
73	S18		Segment output 18	
74	S17		Segment output 17	
75	S16		Segment output 16	
76	S15		Segment output 15	
77	S14		Segment output 14	
78	S13		Segment output 13	
79	S12		Segment output 12	
80	S11		Segment output 11	
81	S10		Segment output 10	
82	S9		Segment output 9	
83	S8		Segment output 8	
84	S7		Segment output 7	
85	S6		Segment output 6	
86	S5		Segment output 5	
87	S4		Segment output 4	
88	S3		Segment output 3	
89	VDD	–	5V	
90	S2	O	Segment output 2	H
91	S1		Segment output 1	
92	Not used	O	Not used (Fixed Vfdp)	
93	G10	O	Grid output 10	H
94	G9		Grid output 9	
95	G8		Grid output 8	
96	G7		Grid output 7	
97	G6		Grid output 6	
98	G5		Grid output 5	
99	G4		Grid output 4	
100	G3		Grid output 3	

■ M62446FP (D.D & INPUT ASSY : IC103)

• Sound Controller IC (Volume and Tone Control)

● Block Diagram



● Pin Function

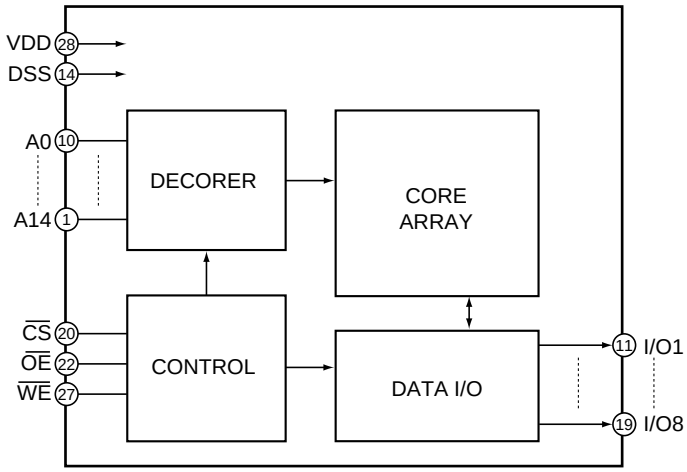
No.	Pin Name	Function
1	OUT4	Output port (open drain of PchTr)
2	OUT3	
3	OUT2	
4	OUT1	
5	AVDD	Analog positive power supply port
7	GNDS	GND (connect to analog ground)
10	GNDC	
12	GNDR	
14	GNDL	
6	SWin	Volume input
8	SRin	
9	SLin	
11	Cin	
36	SWout	Volume output
35	SRout	
34	SLout	
33	Cout	
13	Rin	TONE input
15	Lin	
16	BYPASSR	L and R Volume input at bypass
17	BYPASSL	
31	Lout	L output
32	Rout	R output

No.	Pin Name	Function
18	LTRE	TONE TREBLE frequency control port
25	RTRE	
19	LBASS3	TONE BASS frequency control port
24	RBASS3	
20	LBASS2	
23	RBASS2	
21	LBASS1	
22	RBASS1	
26	CR2	TONE output port
28	CL2	
27	CR1	L and R volume input
29	CL1	
31	Lout	L output
32	Rout	R output
30	AVSS	Analog negative power supply port
37	AGND	Analog ground port
38	DGND	Digital ground port
39	LATCH	Latch input port
40	DATA	Data input port
41	CLK	Clock input port for data transmission
42	DVDD	Digital power supply port

W24257AJ-12 (D.D & INPUT ASSY : IC1301)

- **32K × 8 High-Speed CMOS Static RAM**

● Block Diagram



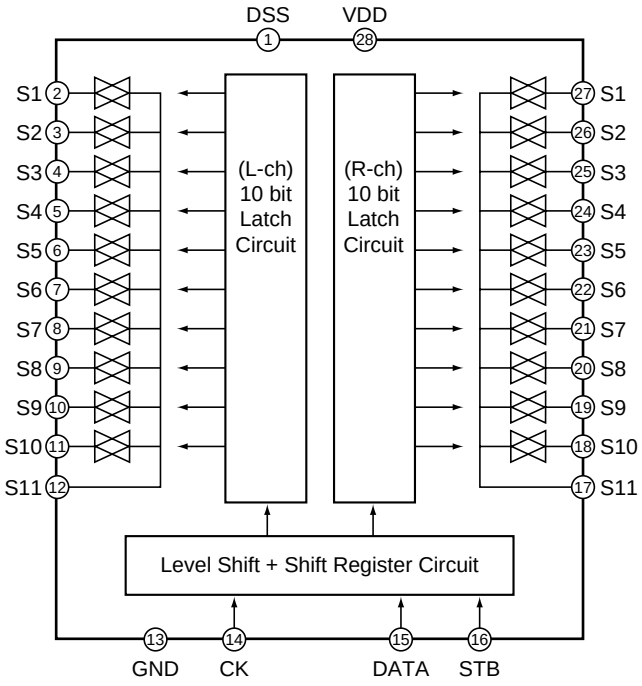
● Pin Function

No.	Pin Name	Function
1	A14	Addres Inputs
2	A12	
3	A7	
4	A6	
5	A5	
6	A4	
7	A3	
8	A2	
9	A1	
10	A0	
21	A10	
23	A11	
24	A9	
25	A8	
26	A13	
11	I/O1	Data Inputs/Outputs
12	I/O2	
13	I/O3	
15	I/O4	
16	I/O5	
17	I/O6	
18	I/O7	
19	I/O8	
14	Vss	Ground
20	CS	Chip Select Input
22	OE	Output Enable Input
27	WE	Write Enable Input
28	Vdd	Power Supply

TC9273F-007 (D.D & INPUT ASSY : IC101)

- **Analog Switch Array**

● Block Diagram



● Pin Function

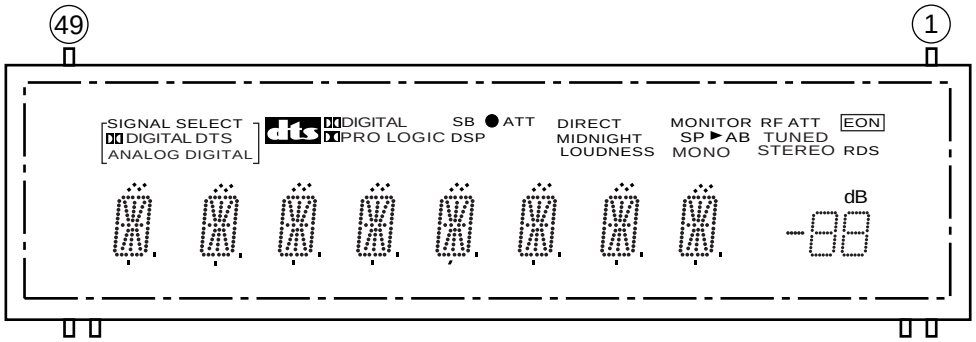
No.	Pin Name	Function
1	VSS	Minus Power Supply
2, 27	S1	Input and Output
3, 26	S2	
4, 25	S3	
5, 24	S4	
6, 23	S5	
7, 22	S6	
8, 21	S7	
9, 20	S8	
10, 19	S9	
21, 18	S10	
26, 17	S11	
13	GND	Digital Ground
14	CK	Clock Input
15	DATA	Data Input
16	STB	Strobe Input
28	VDD	Plus Power Supply

7.2.2 DISPLAY

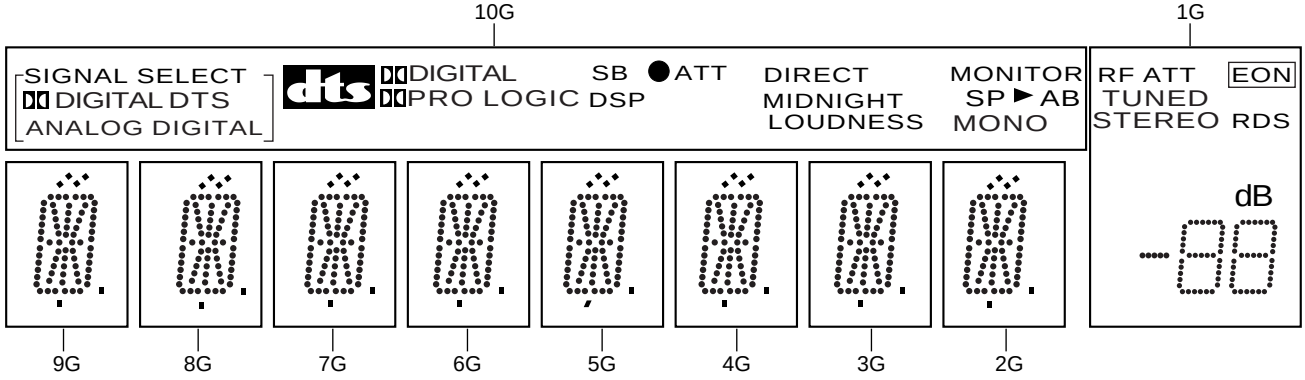
■ XAV3010 (FRONT ASSY : V401)

• FL DISPLAY

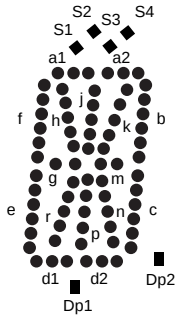
• Pin Assignment



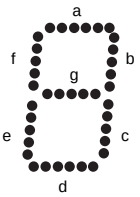
• Grid Assignment



• Segment Designation



(9G to 2G)



(1G)

• Pin Connection

Pin No.	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25
Connection	F2	F2	NP	NP	P22	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2
Pin No.	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Connection	P1	NX	NX	NX	NX	NX	NX	NX	NX	NX	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F1	F1	

NOTE 1) F1, F2..... Filament
2) NP..... No pin
3) NX..... No extend pin
4) DL..... Datum Line
5) 1G to 10G..... Grid
6) Field of vision is a minimum of 29° from the lower side.

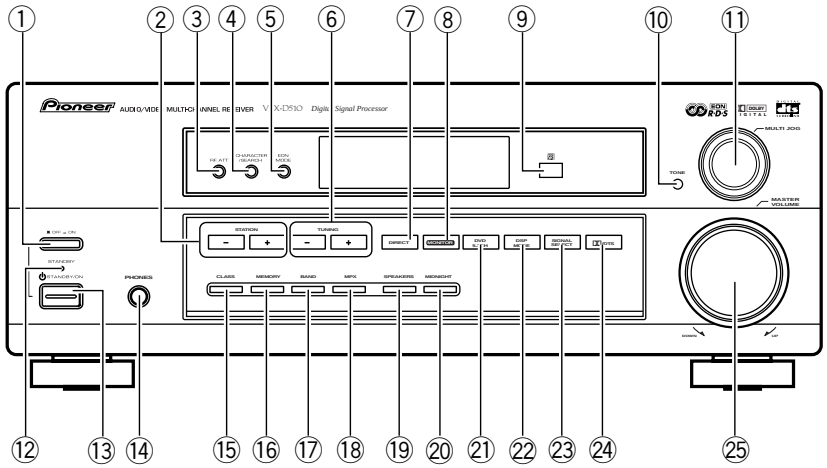
• Anode Connection

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	MONO	a1	a1	a1	a1	a1	a1	a1	a1	dB
P2	B	a2	a2	a2	a2	a2	a2	a2	a2	2a
P3	A	h	h	h	h	h	h	h	h	2b
P4	SP ►	j	j	j	j	j	j	j	j	2f
P5	MONITOR	k	k	k	k	k	k	k	k	2g
P6	LOUDNESS	b	b	b	b	b	b	b	b	2c
P7	MIDNIGHT	f	f	f	f	f	f	f	f	2e
P8	DIRECT	m	m	m	m	m	m	m	m	2d
P9	—	g	g	g	g	g	g	g	g	1a
P10	ATT	c	c	c	c	c	c	c	c	1b
P11	●	e	e	e	e	e	e	e	e	1f
P12	DSP	r	r	r	r	r	r	r	r	1g
P13	SB	p	p	p	p	p	p	p	p	1c
P14	PRO LOGIC	n	n	n	n	n	n	n	n	1e
P15	DIGITAL	d1	d1	d1	d1	d1	d1	d1	d1	1d
P16	dts	d2	d2	d2	d2	d2	d2	d2	d2	•••••
P17	ANALOG	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	RDS
P18	DIGITAL	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	Dp1	RF ATT
P19	[ ]	S1	S1	S1	S1	S1	S1	S1	S1	EON
P20	DTS	S4	S4	S4	S4	S4	S4	S4	S4	□
P21	DIGITAL	S2	S2	S2	S2	S2	S2	S2	S2	TUNED
P22	SIGNAL SELECT	S3	S3	S3	S3	S3	S3	S3	S3	STEREO

8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACILITIES

Front Panel



① ■ OFF/ ▬ ON (Main power) button
If the button is OFF (■), the power of the receiver is shut off and the **STANDBY/ON** button (⑬) on the receiver or the remote control do not function. Pressing the button again will turn the receiver ON (▬) and the receiver enters the standby mode. In the standby mode, you can turn on the receiver using the **STANDBY/ON** button (⑬) on the receiver or the remote control.

② STATION (+/–) buttons
Selects station memories when using the tuner.

③ RF ATT button
Use to lower the input level of a radio signal that is too powerful or contain interference thus causing the receiver to distort

④ CHARACTER/SEARCH button
Use to search for different program types in RDS mode. It is also used to input station names.

⑤ EON MODE button
Use to search for different programs that are transmitting traffic or news information (this search method is called EON).

⑥ TUNING buttons
Selects the frequency when using the tuner.

⑦ DIRECT button
Use to switch DIRECT playback on or off. This mode bypasses the tone controls and channel levels for the most accurate reproduction of a source.

⑧ MONITOR button
Press to switch tape monitoring on/off.

⑨ Remote sensor
Receives the signals from the remote control.

⑩ TONE button
Press this button to access the bass and treble controls, which you can then adjust with the **MULTI JOG** dial.

⑪ MULTI JOG DIAL
The **MULTI JOG** dial performs a number of tasks. Use it to select the function (like DVD or CD) that you want to play. You can also use it, after pressing the **TONE** button to increase or decrease the amount of bass or treble.

⑫ STANDBY indicator
Lights when the receiver is in standby mode (note that the receiver consumes a small amount of power (1W) in standby mode).

⑬ ⏻ STANDBY/ON button
Switches the receiver between on and standby.(note that the receiver consumes a small amount of power (1W) in standby mode).

⑭ PHONES jack
Use to connect headphones. (Use the **SPEAKER** button to turn off the speakers if you want to mute the sound from the speakers.)

⑮ CLASS button
Switches between the three banks (classes) of station memories.

⑯ MEMORY button
Press to memorize a station for recall using the **STATION (+/–)** buttons.

⑰ BAND button
Switches between station AM and FM radio bands.

⑱ MPX button
If there is interference or noise during a FM radio broadcast, or the radio reception is weak, press the **MPX** button to switch the receiver into mono reception mode. This should improve the sound quality and allow you to enjoy the broadcast.

⑲ SPEAKER button
Use to switch the speaker system between **A** (on) and **off**.

⑳ MIDNIGHT button
Use when listening to movie soundtracks at low volume. This feature will enable you to hear quiet sounds and not get jolted by loud or sudden sound effects.

㉑ DVD 5.1ch button
Use this button to switch between a DVD player hooked up to the digital inputs and a 5.1 ch external decoder hooked up to the 5.1 ch analog inputs.

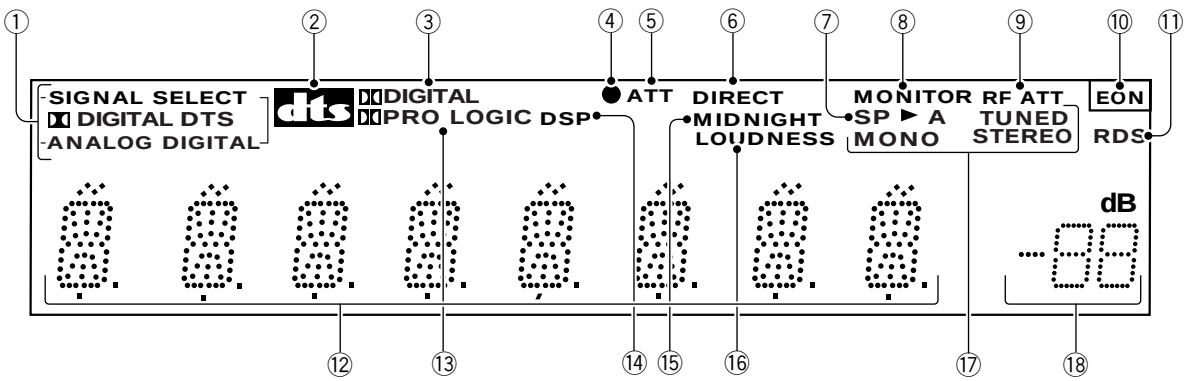
㉒ DSP MODE button
Use to switch between the various DSP modes available (**HALL 1, HALL 2, JAZZ, DANCE, THEATER 1, THEATER 2**) and **DSP off**. Use to create different surround sound effects from any stereo source.

㉓ SIGNAL SELECT button
Use to select between an analog or digital signal.

㉔ ◻◻ /DTS button
Use to switch between the various Dolby/DTS surround modes.

㉕ MASTER VOLUME
Use to set the overall listening volume.

Display



① SIGNAL SELECT indicators
Lights to indicate the type of input signal assigned for the current component :
DIGITAL : Lights when a DOLBY DIGITAL signal is played.
DTS : Lights when a source with DTS audio signals is played.
ANALOG : Lights when an analog signal is selected.
DIGITAL : Lights when a digital audio signal is selected.

② DTS indicator
Lights when DTS mode is being used.

③ DIGITAL indicator
When the (DOLBY)/DTS mode of the receiver is on, this lights to indicate playback of a Dolby Digital signal. However, PRO LOGIC lights during two channel playback of Dolby Digital.

④ OVERLOAD indicator
This lights when an analog signal is too high (the SIGNAL SELECT would have to be on ANALOG). It indicates the sound is distorting and the input signal should be reduced.

⑤ ATT indicator
Lights when ATT is used to attenuate (reduce) the level of the input signal (can only be used in ANALOG mode).

⑥ DIRECT indicator
Lights when source DIRECT is in use. This function bypasses all tone, balance, DSP and Dolby Surround effects.

⑦ SPEAKER indicator
Shows if the speaker system is on or not. SP ►A means speakers are switched on. SP ► means speakers are switched off.

⑧ MONITOR indicator
Lights when **MONITOR** is selected. Used to hear a recording as it's being made .

⑨ RF ATT indicator
Lights when the **RF ATT** is on .

⑩ EON indicator
The box around **EON** indicator lights to inform you that the currently tuned station carries the EON data service. When the EON mode is set, the **EON** indicator light†s, but during actual reception of an EON broadcast the **EON** indicator will flash. An empty box in the **EON** indicator spot means it is possible to pick up an EON broadcast but the receiver has not been set to do so (this will only appear when RDS is switched on).

⑪ RDS indicator
Lights when an RDS broadcast is received.

⑫ CHARACTER display
Shows the radio frequency or function (DVD/LD, CD, etc.) receiver is using.

⑬ PRO LOGIC indicator
When the (DOLBY)/DTS mode of the receiver is on, this lights to indicate playback of a two channel source.

⑭ DSP indicator
Lights when any Advanced Theater or DSP mode is selected.

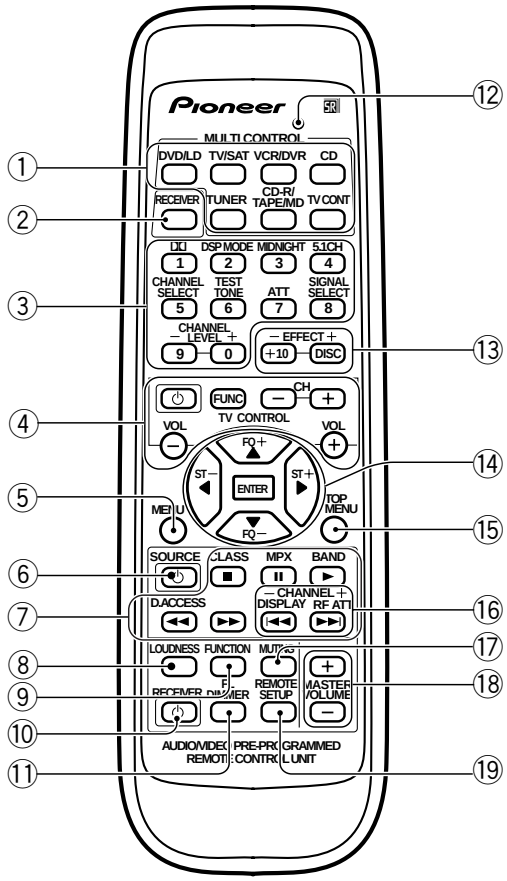
⑮ MIDNIGHT indicator
Lights when MIDNIGHT listening mode is in use.

⑯ LOUDNESS indicator
Lights when the LOUDNESS is on. Use to boost the bass and treble at low volume.

⑰ TUNER indicators
MONO:
Lights when the mono mode is set using the **MPX** button.
TUNED:
Lights when a broadcast is being received.
STEREO:
Lights when a stereo FM broadcast is being received in auto stereo mode.

⑱ MASTER VOLUME LEVEL
Shows the overall volume level. Volume level is maintained even when the power is off. **---dB** indicates the minimum level, and **0dB** indicates the maximum level.
- Depending on the level settings you make for individual channels, the MAX level can range between –10dB and 0dB.

Remote Control



① MULTI CONTROL buttons
Use to put the receiver/remote control in the stated mode. For other equipment controls, see Controlling the Rest of Your System on .

② RECEIVER button
Use this button when setting up the surround sound for the receiver.

③ NUMBER/MODE buttons
Use the number buttons to select the radio frequency in tuner DIRECT ACCESS mode or the tracks in CD, DVD mode etc.

Also, buttons marked with the following names have special functions. If you try to use one of these functions but the display flashes it means that function cannot be used in the current mode (for example DSP modes cannot be used when 5.1 CH setting is on).

DD
Use to put receiver in DOLBY DIGITAL, DOLBY SURROUND and DTS modes. To use first press the **RECEIVER** button then operate this button.

DSP MODE
Use to put receiver in one of the DSP modes. To use first press the **RECEIVER** button then operate this button.

MIDNIGHT
Use to put receiver in MIDNIGHT mode. To use first press the **RECEIVER** button then operate this button.

5.1 ch
When the DVD/LD or DVD 5.1 CH function is selected each press switches the DVD/LD input between DVD/LD and DVD 5.1 CH. To use first press the **RECEIVER** button then operate this button.

CHANNEL SELECT
Use to select a speaker when setting up the surround sound of the receiver. To use first press the **RECEIVER** button then operate this button.

TEST TONE
Use to sound the TEST TONE when setting up the surround sound of the receiver. To use first press the **RECEIVER** button then operate this button.

ATT
If the Overload indicator lights often, use to attenuate (lower) the level of an analog input signal to prevent distortion. To use, press the **RECEIVER** button first, then press this button.

CHANNEL LEVEL +/–
Use to set up the levels of the surround sound of the receiver. To use first press the **RECEIVER** button then operate this button.

SIGNAL SELECT
Use to select the proper signal (analog, digital) for the source your are inputting. To use first press the **RECEIVER** button then operate this button.

④ THE FOLLOWING FOUR SETS OF BUTTONS ARE DEDICATED TV CONTROL. THEY ARE ONLY USED FOR CONTROLLING YOUR TV.

TV FUNC button
Use select the TV function.

TV ⏻ (POWER) button
Use to turn on the power of the TV.

TV CH +/– buttons
Use to change channels on your TV.

TV VOL +/– buttons
Use to adjust the volume on your TV.

⑤ MENU button
Use to access different menus associated with your DVD player. To use first press the **DVD/LD** button then operate this button.

⑥ SOURCE button
Use to turn on/off the components connected to the receiver. To use first press the **MULTI CONTROL** buttons then operate this button.

⑦ THE FOLLOWING BUTTONS ARE BOTH CONTROLS FOR OTHER COMPONENTS (LIKE A DVD PLAYER) AND DEDICATED TUNER CONTROLS. THE TUNER CONTROLS ARE EXPLAINED HERE. YOU CAN USE THEM AFTER YOU HAVE PUSHED THE TUNER MULTI CONTROL BUTTON.

CLASS button
Use to switch between the three banks (classes) of station memories.

MPX button
Use to switch between auto stereo and mono reception of FM broadcasts. If the signal is weak then switching to MONO will improve the sound quality. Also, this is the pause button for CDs, tapes, DVDs, etc.

BAND button
Use to switch between the AM and FM band when in TUNER mode.
D. ACCESS button
Use to directly access a radio station by pressing the number of the station you want.

⑧ LOUDNESS button
Use to switch on the loudness. This feature is useful for getting good bass and treble sounds listening at low volumes.

⑨ FUNCTION button
Use to select the playback or recording source. This button lets you cycle through the different functions of the receiver in the following order: CD, tuner, CDR/TAPE/MD, VCR/DVR, DVD/LD, DVD 5.1 CH., and TV/SAT.

⑩ RECEIVER ⏻ (POWER) button
This switches between STANDBY mode and power ON for this receiver.

⑪ FL DIMMER button
Use this button to make the fluorescent display (FL) dimmer or brighter. There are three brightness settings as well as an off setting.

⑫ LED DISPLAY
This display flashes when a command is sent from the remote control to the receiver. It also flashes at other times, for example when teaching the receiver preset codes with specific meanings.

⑬ EFFECT +/– buttons
Use to add or subtract the amount of effect in different DSP sound modes or advanced listening modes. To use first press the **RECEIVER** button then operate this button.

⑭ ◄ ► (ST +/–) ▲▼ (FQ +/–) & ENTER buttons
Use these arrow buttons when setting up your surround sound system. These buttons are also used to control DVD menus/options and for deck 1 of a double cassette deck player. The **FQ +/–** buttons can be used to find radio frequencies. The **ST +/–** buttons can be used to select the stations of memorized radio frequencies.

⑮ TOP MENU button
In DVD mode this button brings you to the top or most fundamental menu.

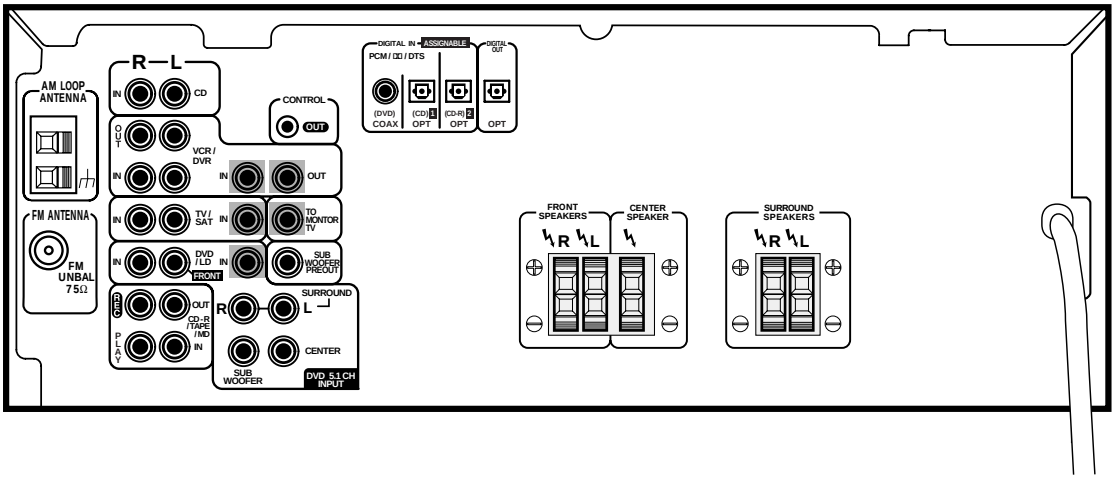
⑯ CHANNEL +/– buttons (DISPLAY, RF ATT)
Use to select the stations of memorized radio frequencies. Also use to skip tracks backward or forward on CDs, DVDs, etc. Also use to display the **RDS** information (**DISPLAY**) and use to lower the input level of a radio signal (**RF ATT**).

⑰ MUTING button
Use to mute the sound or restore the sound if it has been muted.

⑱ MASTER VOLUME +/– buttons
Use to set the overall listening volume.

⑲ REMOTE SETUP button
Use this button when setting up the remote control to control other components.

Rear Panel



8.2 SPECIFICATIONS

Amplifier Section

Continuous Power Output (STEREO MODE)
FRONT .... 80 W + 80 W (DIN 1 kHz, THD 1.0 %, 8 Ω)

Continuous Power Output (SURROUND MODE)
FRONT ..... 80 W/ch (1 kHz, THD 1.0 %, 8 Ω)
CENTER ..... 80 W (1 kHz, THD 1.0 %, 8 Ω)
SURROUND ..... 80 W/ch (1 kHz, THD 1.0 %, 8 Ω)

- Above specifications are applicable when the power supply is 230V.

Input (Sensitivity/Impedance)
CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT
..... 200 mV/47 kΩ
Frequency Response
CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT
..... 5 Hz to 100,000 Hz $^{+0}_{-3}$ dB
Output (Level/Impedance)
VCR/DVR REC, CD-R/TAPE/MD REC
..... 200 mV/2.2 kΩ
Tone Control
BASS ..... ± 6 dB (100 Hz)
TREBLE ..... ± 6 dB (10 kHz)
LOUDNESS ..... +9 dB/+9 dB (100 Hz/10 kHz)

Signal-to-Noise Ratio
[DIN (Continuous rated power output/50 mW)]
CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD, TV/SAT
..... 88 dB/64 dB

VIDEO Section

Input (Sensitivity/Impedance)
VCR/DVR, DVD/LD, TV/SAT ..... 1 Vp-p/75 Ω
Output (Level/Impedance)
VCR/DVR ..... 1 Vp-p/75 Ω
Frequency Response
VCR/DVR, DVD/LD, TV/SAT → MONITOR
..... 5 Hz to 7 MHz $^{+0}_{-3}$ dB

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FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity
..... Mono:13.2 dBf, IHF (1.3 µV/ 75 Ω)
50 dB Quieting Sensitivity ..... Mono: 20.2 dBf
Stereo: 38.6 dBf
Signal-to-Noise Ratio ..... Mono: 73 dB (at 85 dBf)
Stereo: 70 dB (at 85 dBf)
Signal-to-Noise Ratio (DIN) ..... Mono: 62 dB
Stereo: 58 dB
Distortion ..... Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity ..... 60 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (±1dB)
Antenna Input (DIN) ..... 75 Ω unbalanced

AM Tuner Section

Frequency Range ..... 531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna) ..... 350 µV/m
Selectivity ..... 30 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... Loop antenna

Miscellaneous

Power Requirements
UK model ..... AC 230 V, 50/60 Hz
European model ..... AC 220 – 230 V, 50/60 Hz
Power Consumption ..... 220 W
In Standby ..... 1 W
Dimensions ..... 420 (W) x 158 (H) x 391 (D) mm
Weight (without package) ..... 8.7 kg

Furnished Parts

AM loop antenna 1
FM wire antenna 1
Dry cell batteries (AA size IEC R6P) 2
Remote control 1
Operating instructions 1

NOTE:

- Specifications and the design are subject to possible modifications without notice, due to improvements.

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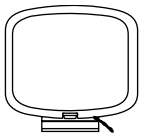
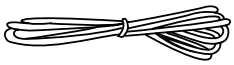
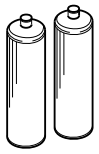
Accessories



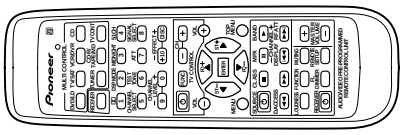
AM loop antenna
(ATB7009)



FM wire antenna
(ADH7005)



AA size IEC R6P
Dry cell batteries (x2)



Remote control unit
(AXD7247)